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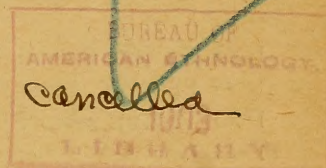
OCTOBER 1903

# New York State Museum

FREDERICK J. H. MERRILL, Director

Bulletin 70

MINERALOGY 3



LIST OF

## NEW YORK MINERAL LOCALITIES

BY

H. P. WHITLOCK C. E.

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# New York State Museum

FREDERICK J. H. MERRILL Director

Bulletin 70

MINERALOGY 3

LIST OF

## NEW YORK MINERAL LOCALITIES

### PREFACE

The lack of systematic classification and of accurate geographic and geologic location of the many mineral localities of New York State, which so materially hampers a detailed study of any mineral collection, has suggested the preparation of a list of the recorded localities for mineral specimens in New York State, which is offered to the public in the following bulletin. The kindly reception accorded to the previous publications of this division of the New York State Museum has led to the hope that the present bulletin will meet a material want not only as a curatorial aid to museum workers in mineralogy in furthering a more accurate labeling of New York specimens but also as a guide to collectors, teachers and students in their field excursions.

The data have been largely compiled from the mineralogic and geologic publications given in the bibliography and have, in a number of cases, been added to, checked and modified by field notes and by the study of specimens from the collections mentioned in the list of authorities. Such a list must, from its character, be incomplete in many points and the author would gladly welcome any information which would render a subsequent edition more comprehensive and accurate.

The author is indebted to Dr F. J. H. Merrill, state geologist, for many valuable suggestions regarding the general character of the work and for much of the geographic and geologic informa-

tion embodied in the text. Acknowledgment is also tendered to the gentlemen whose names appear in the list of authorities for local information.

#### RELATIONS OF MINERAL DEPOSITS TO ROCKS

By far the greater part of the crystallized minerals of New York State occur in igneous and metamorphic rocks, or grouping these two divisions in a rather broader term, in crystalline rocks. The areas covered by these embrace two important sections of the State; the northern section including the Adirondack region and extending over St Lawrence, Jefferson and Lewis counties on the west and the southeastern section including New York, Westchester, Putnam and portions of Orange, Rockland, Richmond and Dutchess counties. The area of Silurian limestones, extending from west to east across the State just south of Lake Ontario and trending to the south along the west shore of the Hudson, affords many localities for secondary minerals notably calcite, dolomite, celestite, barite, quartz etc.

#### Igneous rocks

**Granites and pegmatites.** The component and accessory minerals of granite are commonly found in independent well formed individuals in cavities or vugs where the open space admits of free development of crystals formed by the separation of the mineral constituents from the fused rock magma in the process of its solidification. Pegmatite occurring in dikes and veins is characterized by the same genetic series of minerals found in granite but commonly in rather larger individuals corresponding to the coarser structure of the rock.

#### COMMON MINERALS FORMING AND OCCURRING IN GRANITE AND PEGMATITE

pyrite	microcline	epidote
marcasite	oligoclase	allanite
quartz	spodumene	tourmalin
corundum	amphibole	muscovite
chrysoberyl	beryl	biotite
rutile	garnet	titanite
orthoclase	zircon	xenotime
albite	topaz	apatite



**Gabbros, diorites and other basic igneous rocks.** Rocks of this series have for their chief feldspar constituents the plagioclases; both orthorhombic and monoclinic pyroxenes occur as component minerals. The formation of individual crystals takes place as the rock grades from finer to coarser structure and gives rise to strings or zones of crystallized minerals rather than pockets and cavities as is the case with granite.

#### COMMON MINERALS FOUND IN BASIC IGNEOUS ROCKS

magnetite	labradorite	garnet
ilmenite	enstatite	biotite
spinel	hypersthene	chrysolite
albite	pyroxene	titanite
anorthite		

#### Metamorphic rocks

**Gneisses.** Typical gneiss differs but little in mineralogic composition from typical granite. The mineral constituents are, however, to be found in larger and better formed individuals along zones of contact with crystalline limestone and local areas of magmatic segregation.

#### COMMON MINERALS FOUND IN GNEISS

graphite	hematite	sillimanite
chalcopyrite	orthoclase	cyanite
pyrite	albite	allanite
marcasite	amphibole	tourmalin
quartz	pyroxene	staurolite
corundum	garnet	muscovite
spinel	vesuvianite	biotite
magnetite	zircon	monazite
rutile	andalusite	apatite

**Crystalline limestones.** The crystalline limestones are prolific in accessory minerals which occur disseminated through the mass of the rock, in pockets or vugs or in zones of contact between the limestone and an adjacent igneous intrusive rock.



## COMMON MINERALS FOUND IN CRYSTALLINE LIMESTONES

graphite	dolomite	garnet
sphalerite	siderite	titanite
pyrite	pyroxene	tourmalin
marcasite	wollastonite	chrysolite
quartz	amphibole	humite group
corundum	wernerite	muscovite
spinel	vesuvianite	phlogopite
rutile	zircon	clinocllore
brucite	danburite	talc
calcite	epidote	apatite

**Crystalline schists.** A characteristic series of minerals, for the most part silicates, is found in micaceous, hornblendic and argillaceous schists. They occur embedded and disseminated through the mass of the rock and reach their highest development along the contact portion of the rock mass.

## COMMON MINERALS FOUND IN CRYSTALLINE SCHISTS

quartz	cyanite	biotite
chrysoberyl	andalusite	iolite
amphibole	sillimanite	tourmalin
garnet	staurolite	beryl
zircon	muscovite	

**Serpentines and talc.** The minerals occurring in serpentine are in some cases the unaltered species from which the serpentine was derived, in other cases secondary minerals resulting from a further alteration of the serpentine. They occur embedded and in veins of various thickness traversing the serpentine masses.

## COMMON MINERALS FOUND IN SERPENTINE AND TALC

quartz (chalcedony)	magnesite	garnet
spinel	enstatite	clinocllore
chromite	pyroxene	talc
brucite	amphibole	deweylite
dolomite	chrysolite	apatite
calcite		

### Secondary minerals

Secondary minerals, developed as a result of chemical action on previously formed rocks, are, to a large extent, deposited by percolating water. With regard to their mode of occurrence they may be classified as follows: (1) concretions; (2) deposits lining the interior of cavities, vugs, caverns and grottos; (3) vein formations; (4) minerals produced through pseudomorphism and paramorphism.

**Concretions.** Concretionary deposits of mineral matter are frequent in rocks of sedimentary origin. They are in general formed by the deposition, in successive layers around some organic center, of mineral matter leached from the surrounding rock. The calcium carbonate concretions found in clay beds are excellent types of this form of mineral occurrence. Concretionary forms of quartz, siderite, pyrite, chalcocite etc., are also formed in sedimentary rocks.

**Deposits lining the interior of cavities, etc.** The formation of secondary minerals in cavities of various origin results from the chemical action of percolating water on the rock adjacent to and forming the walls of the cavity. The soluble mineral matter is dissolved from the rock traversed by the descending surface water to be redeposited, sometimes in an entirely different form in the open spaces. The minerals thus deposited take the form of distinct crystallizations or of concentric, incrusting masses.

#### COMMON SECONDARY MINERALS OCCURRING IN CAVITIES

hematite	barite	apophyllite
limonite	celestite	stilbite
quartz	anhydrite	chabazite
calcite	gypsum	heulandite
dolomite	serpentine	harmotome
siderite	sulfur	analcite
aragonite	datolite	natrolite
strontianite	prehnite	

**Vein formations.**<sup>1</sup> Mineral veins may, with justice, be considered as constituting a division under the last named class of secondary mineral deposits; the distinctive character of the

<sup>1</sup>The formation of mineral veins has been very fully discussed by Posepny, F. *Genesis of Ore Deposits*. Am. Inst. Min. Eng. Trans. 1893. p. 23-197.

minerals found in veins has, however, led the author to consider them under a separate head. The large and important group of vein minerals includes most of the ores of commercial importance, particularly the metallic sulfids and sulfosalts.

#### VEIN MINERALS OF COMMON OCCURRENCE IN NEW YORK STATE

galena	fluorite	dolomite
sphalerite	quartz	siderite
millerrite	cuprite	strontianite
pyrrhotite	hematite	orthoclase
chalcopyrite	magnetite	prochlorite
pyrite	rutile	barite
marcasite	brucite	celestite
arsenopyrite	calcite	gypsum

Minerals produced through pseudomorphism and paramorphism. Minerals included in this group are alteration products of primary minerals. These, while retaining the external form of the primary minerals, from which they were derived, differ essentially from them in composition.

#### Drift boulders

Transported masses of rock are found in all parts of New York State, frequently in boulders of considerable size. These are fragments of rock which, through action of glacial or fluvial erosion and transportation have been torn from their parent outcrops and have been carried, generally to the south and east of their original sources. The distance which the drift boulder may have been carried by the ice sheet in the glacial period varies widely so that no accurate estimate can be made of the distance between any glacial fragment and its parent mass.

#### SOURCES AVAILABLE FOR COLLECTING MINERAL SPECIMENS

The sources available for the collection of mineral specimens may be classified as follows:

Sources	natural	<ul style="list-style-type: none"> <li>surface outcrops</li> <li>drift boulders</li> <li>caves</li> </ul>
	artificial	<ul style="list-style-type: none"> <li>mines and quarries</li> <li>excavations for construction:</li> <li>    foundations of buildings,</li> <li>    sewers, subways</li> <li>prospects</li> </ul>



**Surface outcrops.** The surface outcrops of rocks of all formations but particularly unstratified rocks may be studied with considerable profit by the mineral collector in search of specimens. A judicious use of the hammer and cold chisel will often expose, under an unpromising cluster of weathered and decomposed crystals, fresh material well worth the labor expended on its development. The precipitous faces of cliffs and escarpments, furnish in some cases profitable sources for the collection of specimens.

**Drift boulders and fragments.** While in some instances drift boulders, notably those composed of crystalline rock, are valuable sources of mineral specimens the uncertainty regarding the original locality from which they were derived tends to render questionable the value of such specimens. A source of mineral material which may be classed under this head and which is often of more value than drift fragments embedded in the soil is the fragmental rock material used in the construction of stone walls. The accessibility of these to the roads and the comparative ease with which their component fragments may be identified with the country rock should not be overlooked by the collector particularly in a region of crystalline schists.

**Natural caves.** Subterranean tunnels and caverns, formed principally in limestones by the mechanical and chemical erosion of underground waters, frequently become repositories for secondary minerals deposited on the sides and roof as a result of the leaching action of percolating surface water. The exploration of these natural caves often results in the discovery of beautiful crystallizations which from the nature of their deposition are readily detachable.

**Mines and quarries.** Probably nowhere is the mineral collector better repaid for his trouble than in exploring the dump heap of a mine. The waste material representing, as most of it does, the contents of the contact zone between the vein or ore body and the country rock is usually rich in ore minerals as well as in crystallizations of accessory minerals from the country rock. Similarly but to a somewhat less extent the rejected material from a granite or limestone quarry is a profitable collecting source.

**Excavations for building and improvements.** From the casual manner in which these workings penetrate rock formations with respect to productive mineral zones they are hardly calculated to furnish the wealth of mineral specimens met with in mining and quarrying operations. It is, however, true that many rich finds such as, for example, the dumortierite of New York island have resulted from excavations for foundations of buildings, sewer diggings and other municipal improvement works. The accessibility of these excavations to the centers of population often results in a more careful study of the excavated material and in the finding of obscure mineral occurrences which might otherwise escape notice. Rocks exposed in railroad cuts and tunnels may also be said to constitute an important subclass under this head and possess the added advantage of being permanently available for collecting purposes.

**Prospects.** The use of rudimentary mining tools and methods is of considerable value in the acquiring of mineral specimens particularly in regions where mining and quarrying operations are not generally pursued. In most cases a knowledge of the prevailing dip and strike of the country rocks and of the location of the zones of contact between their strata will enable the collector to reach with the aid of a pick and shovel points where the component and accessory minerals occur in well crystallized aggregates. In some cases a blast exploded in a properly drilled hole will amply repay for the expense and trouble incurred, but of course such procedure should be attended with the greatest caution.

#### EXPLANATION OF LIST

In the following tabulated list of localities the first and fifth columns contain the numbers which have been assigned to each locality in order to furnish a ready and convenient means of reference. The second column gives with as much detail as is available the geographic position of the localities grouped under counties and towns. As far as possible definite geographic locations have been substituted for old names of farms, etc.; it has been the author's experience that it is at present extremely difficult to locate the original mineral locality by the old farm name. The third column gives a list of the mineral species

occurring at each locality. The fourth column contains descriptive notes regarding such crystallographic, structural, or other features as may be characteristic of the mineral occurrence. The sixth column is reserved for a quality mark which is assigned to certain occurrences to indicate the mineralogic quality or commercial importance of the material as follows:

xx indicates very fine specimens

x indicates fine specimens

\* indicates that the mineral has been mined or quarried

† indicates that the mines or quarries are no longer operated

The absence of any of the above symbols in the sixth column opposite any given species indicates the occurrence of specimens of ordinary grade.

In the seventh column is noted the character of the rock in which the mineral species occurs, this in many cases being common to all the species found in any locality.

The eighth column contains a list of the mineral species associated with the mineral noted in the third column. This in many instances constitutes a genetic association which is of interest from the standpoint of the formation of minerals.

The numbers and letters given in the ninth column refer to the published and unpublished authorities as given in the following bibliography and list of unpublished authorities.

#### BIBLIOGRAPHY

- 1 **Akerly, Samuel.** On the Geology and Mineralogy of the Island of New York. *Am. Min. Jour.* 1814. 1:191.
- 2 **Bailey, S. C. H.** On the Minerals of New York Island. *N. Y. Lyceum Nat. Hist. Ann.* Nov. 1865. v. 8.
- 3 **Beck, L. C.** Report on the Mineralogical and Chemical Departments of the N. Y. Mineralogical and Geological Survey. *N. Y. Min. Rep't.* 1837. p. 17; 1838. p. 7; 1839. p. 9.
- 4 ——— The Mineralogy of N. Y. State by Counties. *N. Y. Min. Rep't.* 1840. p. 54.
- 5 ——— Mineralogy of New York. 1842.
- 6 ——— Analysis of Hypersthene of New York. *Am. Jour. Sci.* Ser. 1. 1843. 44:35.
- 7 ——— Analysis of Allanite of Monroe, N. Y. *Am. Jour. Sci.* Ser. 1. 1843. 44:37.
- 8 ——— Notices of some Trappean Minerals in New Jersey and New York. *Am. Jour. Sci.* Ser. 1. 1843. 44:54



- 9 **Beck, L. C.** Mineralogy of New York. Am. Jour. Sci. Ser. 1. 1844. 46:25.
- 10 **Bergemann, C.** Allanite from West Point. Am. Jour. Sci. Ser. 2. 1852. 13:416.
- 11 **Blake, W. P.** On a Method for Distinguishing between Biaxial and Uniaxial Crystals when in Thin Plates,—and the Results of the Examination of Several Supposed Uniaxial Micas. Am. Jour. Sci. Ser. 2. 1851. 12:6.
- 12 ——— Lanthanite and Allanite in Essex County, N. Y. Am. Jour. Sci. Ser. 2. 1858. 26:245.
- 13 **Bishop, I. P.** Structural and Economic Geology of Erie County. N. Y. State Mus. 49th An. Rep't. 1898. 2:305-92.
- 14 **Blum, J. R.** The Alteration of Pyroxene to Mica. Pseudomorphosen 3d nachtrag. 1843. p. 163; 1863. p. 93.
- 15 **Brewer, W. H.** Analysis of Pyroxene from Edenville. Liebig's-Kopp's Jahresber. 1850. p. 712.
- 16 **Breidenbaugh, E. S.** On the Minerals found at the Tilly Foster Iron Mines. N. Y. Am. Jour. Sci. Ser. 3. 1873. 6:207.
- 17 **Brigham, A. P.** Drift Boulders between the Mohawk and Susquehanna Rivers. Am. Jour. Sci. Ser. 3. 1895. 49:213.
- 18 **Britton, N. L.** Geology of Richmond County. N. Y. Acad. Sci. Ann. 2:161.
- 19 **Bruce, A.** White Pyroxene from New York Island. Bruce's Min. Jour. 1814. p. 266.
- 20 **Brush, G. J.** On Chalcodite. Am. Jour. Sci. Ser. 2. 1858. 25:198.
- 21 ——— Mineralogical Notices. Am. Jour. Sci. Ser. 2. 1858. 26:64.
- 22 ——— & **Dana, E. S.** Crystallized Danburite from Russell, St Lawrence County, N. Y. Am. Jour. Sci. Ser. 3. 1880. 20:111.
- 23 **Chamberlin, B. B.** Minerals of Staten Island. N. Y. Acad. Sci. Trans. 1887. 5:228.
- 24 **Chester, A. H.** Mineralogical notes. Am. Jour. Sci. Ser. 3. 1887. 33:283.
- 25 **Clarke, F. W.** Constitution of Tourmaline. Am. Jour. Sci. Ser. 4. 1899. 8:111.
- 26 ——— & **Schneider, E. A.** Constitution of the Natural Silicates; the Micas. Am. Jour. Sci. Ser. 3. 1890. 40:410.
- 27 **Cleveland, Parker.** Mineralogy. Bost. 1822.
- 28 **Cozzens, Issachar.** Geological History of Manhattan Island. New York. 1843.
- 29 **Craw, W. J.** Analysis of Phlogopite from St Lawrence County, N. Y. Am. Jour. Sci. Ser. 2. 1850. 10:383.
- 30 **Crawe, J. B. & Gray, Asa.** Sketch of the Mineralogy of a portion of Jefferson and St Lawrence Counties. Am. Jour. Sci. Ser. 1. 1834. 25:346.
- 31 **Cushing, H. P.** Preliminary Report on the Geology of Clinton County. N. Y. State Mus. 47th An. Rep't. 1894. p. 667-83.
- 32 ——— Report on the Geology of Clinton County. N. Y. State Mus. 49th An. Rep't. 1898. 2:21-22; 499-573.
- 33 ——— Preliminary Report on the Geology of Franklin County. N. Y. State Mus. 52d An. Rep't. 1900. 2:75.

- 34 **Cushing, H. P.** Geology of Rand Hill and Vicinity. N. Y. State Mus. 53d An. Rep't. 1901. 1:r37-82.
- 35 **Cutbush, Dr.** Localities of Minerals near West Point. Am. Jour. Sci. Ser. 1. 1824. 7:57.
- 36 **Dana, E. S.** Preliminary Notice of Chondrodite Crystals from the Tilly Foster Mine, Brewster, N. Y. Am. Jour. Sci. Ser. 3. 1875. 9:63.
- 37 ——— On the Chondrodite from the Tilly Foster Mine, Brewster, N. Y. Am. Jour. Sci. Ser. 3. 1875. 10:89.
- 38 ——— On the Optical Character of Chondrodite of the Tilly Foster Mine. Am Jour. Sci. Ser. 3. 1876. 11:139.
- 39 ——— On a Crystal of Allanite from Port Henry, N. Y. Am. Jour. Sci. Ser. 3. 1884. 29:479.
- 40 **Dana, J. D.** Note on Hudsonite. Am. Jour. Sci. Ser. 2. 1855. 19:362.
- 41 ——— Leucaugite from Amity, N. Y. Am. Jour. Sci. Ser. 3. 1873. 6:24.
- 42 ——— On Serpentine Pseudomorphs and other kinds from the Tilly Foster Iron Mine, Putnam County, N. Y. Am. Jour. Sci. Ser. 3. 1874. 8:371, 447.
- 43 ——— System of Mineralogy. Ed. 5, 1868; Ed. 6, 1892.
- 44 ——— On the Geological Relations of the Limestone Belts of Westchester County. Am. Jour. Sci. Ser. 3. 1880. 20:21, 194, 359, 450; Ser. 3. 1881. 21:425; Ser. 3. 1881. 22:1, 104; Ser. 3. 1881. 22:313, 327.
- 45 ——— Note on the Cortlandt and Stony Point Hornblendic and Augite Rocks. Am. Jour. Sci. Ser. 3. 1884. 28:384.
- 46 **Darton, N. H.** Mineralogical Localities in and around N. Y. City and their Minerals. Sci. Am. Sup. 1882. 14:5492, 5566, 5796; 1883. 16:6629.
- 47 ——— Preliminary Description of the Faulted Region of Herkimer, Fulton, Montgomery and Saratoga Counties. N. Y. State Mus. 48th An. Rep't. 1897. 2:33.
- 48 **Des Cloiseaux, A.** Manuel de mineralogie. Paris. v. 1, 1862; v. 2, 1874.
- 49 **Diller, J. S. & Whitfield, J. E.** Dumortierite from Harlem, N. Y., and from Arizona. Am. Jour. Sci. Ser. 3. 1884. 37:216.
- 50 **Doelter, C.** Ueber Diopsid. Tscher. Min. Mitth. N. F. 1:55.
- 51 ——— Diopside from Greenwood Furnace. Tscher. Min. Mitth. 1887. p. 286.
- 52 **Eakle, A. S.** On some Dikes occurring near Lyon Mt, Clinton County, N. Y. Am. Geol. July 1893. p. 7.
- 53 **Emmons, Ebenezer.** Strontianite discovered in the United States. Am. Jour. Sci. Ser. 1. 1835. 27:182.
- 54 ——— Description of Two Minerals supposed to be New. Geol. N. Y. 2d Dist. Apx. 1838.
- 55 **Eaton, A.** Gases, Acids and Salts, of Recent Origin and now Forming on and near the Erie Canal, N. Y. Am. Jour. Sci. Ser. 1. 1829. 15:233.
- 56 **Fenn, H. N.** Coal, Gypsum and Barytes near Rochester. Am. Jour. Sci. Ser. 1. 1824. 6:56.
- 57 **Finch, J.** Notice of the Locality of Bronzite at Amity, Orange County, N. Y. Am. Jour. Sci. Ser. 1. 1829. 16:185.
- 58 ——— Essay on the Mineralogy and Geology of St Lawrence County. Am. Jour. Sci. Ser. 1. 1831. 19:220.

- 59 **Foot, Lyman.** Notices of the Geology and Mineralogy of Niagara Falls Region. *Am. Jour. Sci.* Ser. 1. 1822. 4:35.
- 60 **Fowler, S.** An Account of some New and Extraordinary Minerals discovered at Warwick, Orange County, N. Y. *Am. Jour. Sci.* Ser. 1. 1829. 9:242.
- 61 **Friederich, J. J.** Minerals of New York, N. Y. *N. Y. Acad. Sci. Trans.* 1887. 6:130.
- 62 **Gale, L. D.** Report on the Geology of New York County. *N. Y. Geol. Sur.* 3d An. Rep't. 1839. p. 177-99.
- 63 **Gebhard, John, jr.** On the Geology and Mineralogy of Schoharie. *Am. Jour. Sci.* Ser. 1. 1835. 28:72.
- 64 **Genth, F. A.** Allanite from Orange County, N. Y. *Am. Jour. Sci.* Ser. 2. 1853. 16:86.
- 65 ——— Contributions to Mineralogy. *Am. Jour. Sci.* Ser. 2. 1855. 19:20.
- 66 **Goessman, C. A.** Contributions to the Chemistry of the Mineral Springs of Onondaga, N. Y. *Am. Jour. Sci.* Ser. 2. 1866. 42:211, 368.
- 67 **Gratacap, L. P.** Notes on the Limonite Beds on Ocean Terrace, Staten Island. *Staten Island Nat. Sci. Ass'n Proc.* 1899. v. 7, no. 12, p. 2.
- 68 **Hall, C. E.** Laurentian Magnetic Iron Ore Deposits of Northern New York. *N. Y. State Geol.* 4th An. Rep't. 1884. p. 23.
- 69 **Hawes, G. W.** Analysis of Pyroxene from Edenville, N. Y. *Am. Jour. Sci.* Ser. 3. 1878. 16:597.
- 70 **Hidden, W. E.** Xenotime from New York City. *Am. Jour. Sci.* Ser. 3. 1888. 36:380.
- 71 **Hillebrand, W. F.** Wollastonite, Oneida County, N. Y. *Am. Jour. Sci.* Ser. 4. 1896. 1:323.
- 72 **Horton, William.** Report on the Geology of Orange County. *N. Y. Geol. Sur.* 3d An. Rep't. 1839. p. 135.
- 73 ——— List of Minerals observed in Making the Examination of Orange County. *Geol. N. Y.* 1st Dist. 1839. p. 166.
- 74 ——— List of Minerals found in Orange County, N. Y. *Geol. N. Y.* 1st Dist. 1843. p. 577.
- 75 **Hough, F. B.** Observations on the Geology of Lewis County. *Am. Quar. Jour. Agric. and Sci.* Ser. 5. 1847. p. 267, 314.
- 76 ——— Mineral Localities in New York. *Am. Jour. Sci.* Ser. 2. 1848. 5:132.
- 77 ——— On the Existing Mineral Localities of Lewis, Jefferson and St Lawrence Counties, N. Y. *Am. Jour. Sci.* Ser. 2. 1850. 9:424.
- 78 ——— On the Discovery of Sulphuret of Nickel in Northern New York. *Am. Jour. Sci.* Ser. 2. 1850. 9:287.
- 79 ——— New Mineral Localities in New York. *Am. Jour. Sci.* Ser. 2. 1850. 9:288.
- 80 ——— New American Localities of Minerals. *Am. Jour. Sci.* Ser. 2. 1851. 12:395.
- 81 ——— Descriptions of Mineralogical and Geological Specimens presented to the New York State Museum. *N. Y. State Cab. of Nat. Hist.* 4th An. Rep't. 1851. p. 82



- 82 **Hovey, E. O.** Notes on some Specimens of Minerals from Washington Heights, N. Y. City. *Am. Mus. Nat. Hist. Bul.* 1895. 7:341.
- 83 **Hubbard, O. P.** Geological and Mineralogical Notices (Northern New York). *Am. Jour. Sci. Ser. 1.* 1837. 32:230.
- 84 **Hunt, T. S.** On the Acid Springs and Gypsum Deposits of the Onondaga Salt Group. *Am. Jour. Sci. Ser. 2.* 1849. 7:175.
- 85 ——— Description and Analysis of a new Mineral Species containing Titanium with remarks on the constitution of titaniferous minerals. *Am. Jour. Sci. Ser. 2.* 1846. 2:30.
- 86 ——— On the Chemical Constitution of the Mineral Warwickite. *Am. Jour. Sci. Ser. 2.* 1851. 11:352.
- 87 ——— Note on the Occurrence of Glauconite in the Lower Silurian Rocks. *Am. Jour. Sci. Ser. 2.* 1862. 33:277.
- 88 ——— On the Laurentian Limestones and their Mineralogy. *Geol. Sur. of Can. Rep't of Progress.* 1863-66. p. 181.
- 89 ——— Mineralogy of the Laurentian Limestones. *N. Y. State Mus. 21st An. Rep't.* 1871.
- 90 ——— Geology of Port Henry, N. Y. *Can. Nat.* 1883. 10:420.
- 91 **Jackson, C. J.** On Eupyrchroite of Crown Point, N. Y. *Am. Jour. Sci. Ser. 2.* 1851. 12:73.
- 92 **Jessup, A. E.** Geological and Mineralogical Notice of a Portion of the Northeastern Part of the State of New York. *Phil. Acad. Sci. Jour.* 1822. 2:185.
- 93 **Johnson, S. W.** On the Houghite of Prof. Shepard. *Am. Jour. Sci. Ser. 2.* 1851. 12:361.
- 94 **Julien, A. A.** On the Serpentine of Staten and New York Islands. *N. Y. Acad. Sci. Trans.* 1882. 1:58.
- 95 **Keating, W. H.** Lamellar Pyroxene from West Point, N. Y. *Phil. Acad. Sci. Jour.* 3:68.
- 96 **Kemp, J. F.** On the Rosetown Extension of the Cortlandt Series. *Am. Jour. Sci. Ser. 3.* 1888. 36:247.
- 97 ——— The Geology of Manhattan Island. *N. Y. Acad. Sci. Trans.* 1888. 7:49.
- 98 ——— Notes on the Minerals occurring near Port Henry, N. Y. *Am. Jour. Sci. Ser. 3.* 1890. 40:62.
- 99 ——— The great Shear-zone near Avalanche Lake, in the Adirondacks. *Am. Jour. Sci. Ser. 3.* 1892. 44:109.
- 100 ——— Preliminary Report on the Geology of Essex County, N. Y. *N. Y. State Geol. 13th An. Rep't.* 1894. 1:22, 575; *N. Y. State Mus. 47th An. Rep't.* 1894. p. 627.
- 101 ——— The Nickel Mine at Lancaster Gap, Pa., and the Pyrrhotite Deposits at Anthony's Nose, on the Hudson, N. Y. *Am. Inst. Min. Eng. Trans.* 1894. 24:620, 888.
- 102 ——— Crystalline Limestone, Opicalcites and Associated Schists of the Eastern Adirondacks, N. Y. *Geol. Soc. Am. Bul.* 1895. 6:241.
- 103 ——— Geology of Moriah and Westport Townships, Essex County. *N. Y. State Mus. Bul. 14.* 1895.

- 104 **Kemp, J. F.** Geology of Moriah and Westport Townships, Essex County, N. Y. N. Y. State Mus. 48th An. Rep't. 1897. 1:325.
- 105 ——— Geology of the Lake Placid Region, N. Y. N. Y. State Mus. Bul. 21. 1898.
- 106 ——— Geology of the Magnetites near Port Henry, N. Y., and especially those of Mineville. Am. Inst. Min. Eng. Trans. 1898. 27:146.
- 107 ——— Titaniferous Iron Ores of the Adirondacks. U. S. Geol. Sur. 19th An. Rep't. 1899. 3:377.
- 108 ——— **& Hill, B. F.** Preliminary Report on the Precambrian Formations in parts of Warren, Saratoga, Fulton and Montgomery Counties. N. Y. State Geol. 19th An. Rep't. 1901. p. r17; N. Y. State Mus. 52d An. Rep't. 1901. p. r17.
- 109 ——— **& Hollick, Arthur.** Granite of Mounts Adam and Eve, Warwick, Orange County, N. Y., and its Contact Phenomena. N. Y. Acad. Sci. Ann. 7:638.
- 110 ——— ——— White Limestones of Orange County, N. Y. Am. Jour. Sci. Ser. 3. 1894. 47:401.
- 111 ——— **& Newland, D. H.** Preliminary Report on the Geology of Washington, Warren and Parts of Essex and Hamilton Counties. N. Y. State Geol. 17th An. Rep't. 1899. p. 499; N. Y. State Mus. 51st An. Rep't. 1899. 2:499.
- 112 ——— ——— **& Hill, B. F.** Preliminary Report on the Geology of Hamilton, Warren and Washington Counties. N. Y. State Geol. 18th An. Rep't. 1899. p. 137; N. Y. State Mus. 52d An. Rep't. 1900. 2:137.
- 113 **Kenngott, A. G.** Note on Hudsonite. Sitzber. Akad. Wien. 1844. 12:297; Am. Jour. Sci. Ser. 2. 1855. 19:362.
- 114 **Krantz, F.** Note on Crystals of Pyroxene from Orange County, N. Y. Pogg. Ann. Bd. 111:263.
- 115 **Kunz, G. F.** Apatite from near Yonkers, N. Y. Am. Jour. Sci. Ser. 3. 1888. 36:223.
- 116 ——— Fluorite from Macomb, N. Y. Am. Jour. Sci. Ser. 3. 1889. 38:72.
- 117 **Landis, E. K.** The Tilly Foster Mine (New York). Franklin Inst. Jour. 1900. 150:223.
- 118 **Lee, C. A.** Notice of the Ancram Lead Mine. Am. Jour. Sci. Ser. 1. 1824. 8:247.
- 119 **Leeds, A.** Augite from Amity, N. Y. Am. Jour. Sci. Ser. 3. 1873. 6:24.
- 120 ——— Notes on the Lithology of the Adirondacks. N. Y. State Cab. of Nat. Hist. 30th An. Rep't. 1878. p. 79.
- 121 **Luther, D. D.** The Economic Geology of Onondaga County. N. Y. State Mus. 49th An. Rep't. 1898. 2:241.
- 122 **Macfarland, J.** Discovery of Rock Salt at Wyoming in Western New York. Am. Jour. Sci. Ser. 3. 1878. 16:144.
- 123 **Martin, D. S.** Note on the Colored Clays recently exposed in Railroad Cuttings near Morrisania, N. Y. City. N. Y. Acad. Sci. Trans. 1890. 9:46.
- 124 **Mather, W. W.** Geol. N. Y. 4th Dist. 1846.

- 125 **Merrill, F. J. H.** Metamorphic Strata of Southeastern New York. *Am. Jour. Sci. Ser. 3.* 1890. 39:383.
- 126 ——— Note on the Colored Clays recently exposed in Railroad Cuttings near Morrisania, N. Y. City. *N. Y. Acad. Sci. Trans.* 1890. 9:45.
- 127 ——— Mineral Resources of New York State. *N. Y. State Mus. Bul.* 15. 1895.
- 128 ——— Geology of the Vicinity of Greater New York. *N. Y. Acad. Sci. Trans.* 1898. 21:72.
- 129 ——— Geology of the Crystalline Rocks of Southeastern New York. *N. Y. State Mus. 50th An. Rep't. Apx. A.* 1898. p. 21.
- 130 ——— Origin of the Serpentine in the Vicinity of New York. *N. Y. State Mus. 50th An. Rep't. Apx. B.* 1898. p. 32.
- 131 **Merrill, G. P.** Notes on the Serpentinous Rocks of Essex County, N. Y., from Aqueduct Shaft 26, N. Y. City, and from near Easton, Pa. *U. S. Nat. Mus. Proc.* 1890. 12:595.
- 132 ——— On the Ophiolite of Thurman, Warren County, N. Y., with remarks on the *Eozoon canadense*. *Am. Jour. Sci. Ser. 3.* 1889. 37:189.
- 133 **Moses, A. J.** Mineralogical Notes; Pyrite Crystals from Kings Bridge, N. Y. *Am. Jour. Sci. 3.* 1893. 45:488.
- 134 **Nason, F. L.** Notes on some of the Iron-bearing Rock of the Adirondack Mountains. *Am. Geol.* 1893. 12:25.
- 135 ——— Some New York Minerals and their Localities. *N. Y. State Mus. Bul. 4.* 1888; *Am. Jour. Sci. Ser. 3.* 1889. 37:237.
- 136 **Nevius, J. N.** Fibrous Talc in St Lawrence County, N. Y. *Eng. and Min. Jour.* 1899. 47:234.
- 137 ——— Talc Industry of St Lawrence County, N. Y. *N. Y. State Mus. 51st An. Rep't.* 1899. 1:121.
- 138 **Niven, W.** Xenotime, Monazite, etc., on Manhattan Island. *Am. Jour. Sci. Ser. 3.* 1895. 50:75.
- 139 **Penfield, S. L. & Forbes, E. H.** Hortonolite from Orange County, N. Y. *Am. Jour. Sci. Ser. 4.* 1896. 1:131.
- 140 ——— & **Ford, W. E.** Calcite Crystals from Union Springs, N. Y. *Am. Jour. Sci. Ser. 4.* 1900. 10:237.
- 141 ——— & **Howe, W. T. H.** On the Chemical Composition of Chondrodite, Humite and Clinohumite. *Am. Jour. Sci. Ser. 3.* 1894. 47:188.
- 142 ——— & **Sperry, E. S.** (Phlogopite) A very pure Magnesia Mica, Phlogopite, from Edwards, St Lawrence County, N. Y. *Am. Jour. Sci. Ser. 3.* 1888. 36:329.
- 143 **Pierce, James.** Discovery of Native Crystallized Carbonate of Magnesia on Staten Island with a Notice of the Geology and Mineralogy of the Island. *Am. Jour. Sci. Ser. 1.* 1818. 1:142.
- 144 ——— Carbonate of Magnesia, and very uncommon Amianthus, discovered near New York. *Am. Jour. Sci. Ser. 1.* 1819. 1:54.
- 145 ——— Account of the Geology, Mineralogy, Scenery, etc., of the Secondary Region of New York, New Jersey, and the Adjacent Regions. *Am. Jour. Sci. Ser. 1.* 1820. 2:181.
- 146 ——— Minerals of Lake Champlain. *Am. Jour. Sci. Ser. 1.* 1821. 4:113.



- 147 **Pierce, James.** On the Geology, Mineralogy, Scenery, etc., of the Highlands of New York and New Jersey. *Am. Jour. Sci. Ser. 1.* 1822. 5:26.
- 148 ———— Memoir on the Catskill Mountains with Notices of their Topography, Scenery, Mineralogy, Zoology, etc. *Am. Jour. Sci. Ser. 1.* 1823. 6:86.
- 149 **Putnam, B. T.** Notes on Samples of Iron Ore collected in New York. 10th Census U. S. 1886. 15:89-144.
- 150 **Rammelsberg, C. F.** Analysis of Pyroxene from Edenville, N. Y. *Mineralchemie.* 1875. p. 386.
- 151 **Vom Rath, G.** Diopside from DeKalb, N. Y. *Sitzber, Niederrh, Ges. fur Nat. u. Heilk.* 1886. p. 224.
- 152 ———— Pyroxene from Orange County, N. Y. *Zeit. fur Kryst. u. Min.* 1881. 5:495.
- 153 ———— Ueber Diopsid von DeKalb, N. Y. *Zeit. fur Kryst. u. Min.* 1888. 13:598.
- 154 ———— Alteration Products of Pyroxene from Orange County, N. Y. *Pogg. Ann. Bd.* 1860. 111:263
- 155 ———— On Pyroxene from Diana, N. Y. *Pogg. Ann. Bd.* 1872. 144:377.
- 156 **Raymond, R. W.** Spathic Iron Ores of the Hudson River. *Am. Inst. Min. Eng. Trans.* 1876. 4:339.
- 157 ———— Pyrrhotite Deposits at Anthony's Nose, N. Y. *Am. Inst. Min. Eng. Trans.* 1894. 24:886
- 158 **Ries, Heinrich.** List and Bibliography of Minerals occurring in Warwick Town, Orange County, N. Y. *N. Y. Acad. Sci. Ann.* 1894. 7:651.
- 159 ———— Monoclinic Pyroxenes of New York State. *N. Y. Acad. Sci. Ann.* 1896. 9:124.
- 160 ———— Geology of Orange County, N. Y. *N. Y. State Mus.* 49th An. Rep't. 1898. 2:393.
- 161 ———— Note on Beryl Crystal from N. Y. City. *N. Y. Acad. Sci. Trans.* 1898. 16:329.
- 162 ———— Allanite Crystals from Mineville, Essex County, N. Y. *N. Y. Acad. Sci. Trans.* 1898. 16:327.
- 163 ———— Clays of New York. *N. Y. State Mus. Bul.* 35. 1900.
- 164 ———— & **Eckel, E. C.** Lime and Cement Industries of New York. *N. Y. State Mus. Bul.* 44. 1901.
- 165 **Riggs, R. B.** Indicolite, so-called from Harlem, N. Y. *Am. Jour. Sci. Ser. 3.* 1887. 34:406.
- 166 **Robinson, S.** List of American Mineral Localities. Bost. 1826.
- 167 **Rogers, W. B.** On the Clinton Group and its Iron Ores. *Bost. Soc. Nat. Hist. Proc.* 1858. 6:340.
- 168 **Root, O.** On a Locality of Carbonate of Strontian. *Am. Jour. Sci. Ser. 2.* 1852. 13:264.
- 169 **Root, E. W.** On Wilsonite from St Lawrence County, N. Y. *Am. Jour. Sci. Ser. 2.* 1868. 45:47.
- 170 **Ruttman, F. E.** Notes on the Geology of the Tilly Foster Mine. *Am. Inst. Min. Eng. Trans.* 1887. 15:79.
- 171 **Sahlin, A.** Talc Industry of the Gouverneur District, St Lawrence County, N. Y. *Am. Inst. Min. Eng. Trans.* 1891. 21:583.

- 172 **Schmidt, A.** Die Talklagerstätten von St Lawrence County im Staat New York. Zeit. fur prak. Geol. 1897. 1:29.
- 173 ——— Die Magnetit-Lagerstätten bei Port Henry im Staat New York. Zeit. fur prak. Geol. 1897. 9:318.
- 174 **Schneider, Philip F.** The Limestones of Central New York. Stone. 1898. 18:26.
- 175 **Seybert, H.** Note on Green Pyroxene from Willsboro on Lake Champlain. Am. Jour. Sci. Ser. 1. 1822. 5:116.
- 176 **Shepard, C. U.** Sketch of the Mineralogy and Geology of the Counties of Orange, N. Y., and Sussex, N. J. Am. Jour. Sci. Ser. 1. 1832. 21:321.
- 177 ——— On the Strontianite of Schoharie, N. Y. Am. Jour. Sci. Ser. 1. 1835. 27:363.
- 178 ——— Notice of Warwickite, a new Mineral Species. Am. Jour. Sci. Ser. 1. 1838. 34:313, analysis; *Ibid.* Ser. 1. 1839. 36:85.
- 179 ——— On a supposed New Mineral Species. Am. Jour. Sci. Ser. 1. 1840. 39:357.
- 180 ——— 1 Dysyntribite } Mineralogical Notices.  
4 Houghite }
- Am. Jour. Sci. Ser. 2. 1851. 12:209.
- 181 ——— Two new Minerals from Monroe, Orange County, N. Y. Am. Jour. Sci. Ser. 2. 1852. 13:392.
- 182 ——— Notice of the Meteoric Iron found near Seneca River, Cayuga County, N. Y. Am. Jour. Sci. Ser. 2. 1853. 15:363.
- 183 **Silliman, B.** Quartz from West Canada Creek. Am. Jour. Sci. Ser. 1. 1819. 1:241.
- 184 ——— Fluor Spar on the Genesee River. Am. Jour. Sci. Ser. 1. 1821. 3:235.
- 185 ——— Notices of Minerals and Rocks chiefly in Berkshire, Mass., and Contiguous to the Waters of the Upper Hudson and Lakes George and Champlain. Am. Jour. Sci. Ser. 1. 1822. 4:40.
- 186 ——— Fibrous Gypsum of Onondaga County, N. Y. Am. Jour. Sci. Ser. 1. 1829. 16:377.
- 187 ——— Notice of a Mass of Meteoric Iron found at Cambria, near Lockport, N. Y. Am. Jour. Sci. Ser. 1. 1845. 48:388.
- 188 **Silliman, B jr.** On Monrolite. Am. Jour. Sci. Ser. 2. 1849. 8:385.
- 189 ——— Optical Examination of several American Micæ. Am. Jour. Sci. Ser. 2. 1850. 10:372.
- 190 **Smith, J. L.** Warwickite. Am. Jour. Sci. Ser. 3. 1874. 8:432.
- 191 ——— & **Brush, G. J.** Note on the Composition of Hudsonite. Am. Jour. Sci. Ser. 2. 1853. 16:369; Am. Jour. Sci. Ser. 2. 1855. 19:362.
- 192 **Smith, Stephen.** Notice of the Salt Springs and Manufacture of Salt at Salina, Syracuse, etc., N. Y. Am. Jour. Sci. Ser. 1. 1829. 15:6.
- 193 **Smock, J. C.** Geological Reconnaissance in the Crystalline Rock Region, Dutchess, Putnam and Westchester Counties, N. Y. N. Y. State Mus. 39th An. Rep't. 1886. p. 166.
- 194 ——— Iron Mines and Iron Ore Districts in the State of New York. N. Y. State Mus. Bul. 7 1889.

- 195 **Smyth, C. H. jr.** A Third Occurrence of Peridotite in Central New York. *Am. Jour. Sci.* Ser. 3. 1892. 43:322.
- 196 ——— On the Clinton Iron Ore. *Am. Jour. Sci.* Ser. 3. 1892. 43:487.
- 197 ——— Alnoite containing an Uncommon Variety of Melilite. *Am. Jour. Sci.* Ser. 3. 1893. 46:104.
- 198 ——— Report on a Preliminary Examination of the General and Economic Geology of four Townships in St Lawrence and Jefferson Counties, N. Y. *N. Y. State Mus.* 47th An. Rep't. 1894. p. 687.
- 199 ——— Crystalline Limestones of the Adirondacks. *Geol. Soc. Am. Bul.* 1895. 6:263
- 200 ——— Fibrous Talc and Soapstone. *Min. Ind.* 1895. p. 37.
- 201 ——— Genetic Relations of Certain Minerals of Northern New York. *N. Y. Acad. Sci. Trans.* 1896. 15:260.
- 202 ——— Genesis of the Talc Deposits of St Lawrence County, N. Y. *Sch. of Mines Quar.* 1896. 17:333.
- 203 ——— Talc of St Lawrence County, N. Y. *Am. Jour. Sci.* Ser. 4. 1897. 3:76.
- 204 ——— Pseudomorphs from Northern New York. *Am. Jour. Sci.* Ser. 4. 1897. 4:309.
- 205 ——— Report on the Talc Industry of St Lawrence County, N. Y. *N. Y. State Mus.* 49th An. Rep't. 1898. p. 661.
- 206 ——— Report on the Crystalline Rocks of St Lawrence County. *N. Y. State Mus.* 49th An. Rep't. 1898. p. 477.
- 207 ——— Geology of the Adirondacks Region. *Appalachia.* 1899. 9:44.
- 208 ——— Report on Crystalline Rocks of Western Adirondacks. *N. Y. State Mus.* 51st An. Rep't. 1899. 2:471.
- 209 ——— Petrography of the Gneisses of the Town of Gouverneur, N. Y. *N. Y. Acad. Sci. Trans.* 12:203.
- 210 **Steel, J. H.** New Locality of Chrysoberyl. *Am. Jour. Sci.* Ser. 1. 1822. 4:37.
- 211 **Teschemacher, J. E.** Singular Crystals of Lead from Rossie, N. Y. *Am. Jour. Sci.* Ser. 1. 1844. 47:417.
- 212 **Thomson, T.** Chemical Examination of some Minerals, chiefly from America. *N. Y. Acad. Sci. Ann.* 1827. 3:9.
- 213 ——— Chemical Examination of American Minerals. *N. Y. Lyceum Nat. Hist. Ann.* 1827. 3:54.
- 214 ——— Analysis of the supposed Anthophyllite of New York. *Am. Jour. Sci.* Ser. 1. 1831. 19:359.
- 215 **Trcost, G.** The Pyroxenes of the United States. *Phil. Acad. Sci.* Four. 1825. 3:105.
- 216 **Van Rensselaer, J.** Serpentine, etc., on New York Island. *Am. Jour. Sci.* Ser. 1. 1828. 14:192.
- 217 **Vanuxem, Lardner.** Note on Hudsonite. *Phil. Acad. Sci. Jour.* 3:68.
- 218 **Wendt, A. F.** The Iron Mines of Putnam County, N. Y. *Am. Inst. Min. Eng. Trans.* 1885. 13:478.
- 219 **Whitfield, J. E.** Danburite from Russell, St Lawrence County, N. Y. *Am. Jour. Sci.* Ser. 3. 1887. 34:285.
- 220 **Weidman, S.** Amphibole (Hudsonite) previously called a Pyroxene. *Am. Jour. Sci.* Ser. 4. 1903. 15:227.



- 221 **Williams, E. H.** On Crystals of Tourmaline with enveloped Orthoclase from Crown Point, N. Y. *Am. Jour. Sci. Ser. 3.* 1876. 11:273.
- 222 **Williams, G. H.** Paramorphosis of Pyroxene to Hornblende in Rocks. *Am. Jour. Sci. Ser. 3.* 1884. 28:259.
- 223 ——— Cause of the Apparently perfect Cleavage in American Sphene (Titanite). *Am. Jour. Sci. Ser. 3.* 1885. 29:486.
- 224 ——— The Gabbros and Diorites of the Cortlandt Series near Peekskill, N. Y. *Am. Jour. Sci. Ser. 3.* 1886. 31:26.
- 225 ——— On the Serpentine (Peridotite) occurring in the Onondaga Salt Group at Syracuse, N. Y. *Am. Jour. Sci. Ser. 3.* 1887. 34:137.
- 226 ——— Rutil nach Ilmenit in veränderten Diabase Pleonast (Hercynit) in Norit von Hudson-Fluss. Perowskit in Serpentin (Peridotit) von Syracuse, N. Y. *Neues Jahrbuch.* 1887. 2:263.
- 227 ——— On some Remarkable Crystals of Pyroxene from Orange County N. Y. *Am. Jour. Sci. Ser. 3.* 1887. 34:275.
- 228 ——— Contact Phenomena of the Cortlandt Series near Peekskill, N. Y. *Am. Jour. Sci. Ser. 3.* 1888. 36:254.
- 229 ——— On the possibility of Hemihedrism in the Monoclinic Crystal System; with especial Reference to the Hemihedrism of Pyroxene. *Am. Jour. Sci. Ser. 3.* 1889. 38:115.
- 230 ——— Amphibole, St Lawrence County, N. Y. *Am. Jour. Sci. Ser. 3.* 1890. 39:352.
- 231 **Williams, S. G.** Geological Relations of the Gypsum Deposits in Cayuga County, N. Y. *Am. Jour. Sci. Ser. 3.* 1885. 30:212.

#### Other authorities

- a* American Museum of Natural History  
*b* Brooklyn Institute, mineral collection  
*c* Columbia University, Egleston Mineralogical Museum  
*d* Hamilton College Museum  
*e* New York State Museum  
*f* Union College Museum  
*g* Mr E. C. Eckel  
*h* Mr Gilbert van Ingen  
*j* Mr W. W. Jefferies  
*k* Prof. J. F. Kemp  
*l* Mr H. O. Clough  
*m* Dr F. J. H. Merrill  
*p* Mr H. S. Peck  
*w* The author

## ALBANY

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Bethlehem</b>			
1	Kenwood, north bank Normans kill . . .	calcite.....	small nail head crystals.....
		quartz.....	small crystals.....
		pyrite.....	nodular concretions and crystals..
2	1½ m. n. w. Coeyman.....	epsomite.....	efflorescence on limestone.....
		calcite.....	stalactites and sinter.....
		gypsum.....	massive and snowy.....
3	Crystal hill, Glenmont.....	quartz.....	crystals.....
<b>Coeyman</b>			
4	Coeyman.....	gypsum.....	selenite crystals.....
<b>New Scotland</b>			
5	Indian Ladder.....	calcite.....	crystals.....
		pyrite.....	small crystals.....
6	1 m. e. Indian Ladder.....	calcite.....	small brilliant crystals.....
		dolomite.....	white and pinkish aggregates.....
		aragonite.....	radiating needles.....
7	½ m. s. of New Salem.....	pyrite.....	small bright crystals.....
<b>Watervliet</b>			
8	Campbell.....	quartz.....	yellow drusy crystals.....

## ALLEGANY

The Devonian shales and sandstones have been successfully drilled for petroleum in many in mineral localities.

## BROOME

The Devonian shales, sandstones and conglomerates of this county do not include mineral

## CATTARAUGUS

The Devonian shales and sandstones which constitute the rocks of this county have been otherwise these formations are unprolific in mineral localities.

## CAYUGA

<b>Auburn</b>			
9	at base of hill on e. bank Owasco creek	celestite.....	thin radial blades.....
		calcite.....	in minute crystals and rounded masses.....
		fluorite.....	.....
		epsomite.....	.....
<b>Springport</b>			
10	Thompson's plaster beds.....	sulfur.....	semicrystalline.....
		gypsum.....	selenite.....

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
1	vein in shale		quartz.....	w
	"		calcite.....	w
	in shale.....			w
2	on limestone.....			5, 43
	in shale.....		gypsum.....	5, 43
	"		calcite.....	5, 43
3	"			5, 43
4	in clay.....			5, 43
5	in limestone.....			l
	"			l
6	"		dolomite, aragonite.....	l
	"		calcite.....	l
	"		"	l
7	in shale.....			w
8	"			5, 43

## COUNTY

localities in the southern section of the county, otherwise these formations are not prolific

## COUNTY

localities of sufficient importance to note in this list.

## COUNTY

successfully drilled for petroleum in many localities in the southern section of the county,

## COUNTY

9	in dark Salina limestone	calcite, fluorite etc.....	5, 43
	in slate.....	celestite.....	5, 43
	in Salina limestone.....	" calcite.....	5, 43
	"	calcite, fluorite.....	5, 43
10 xx	in gypsum of Salina.....		5, 43
x.	"	sulfur.....	43



**CAYUGA**

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Union Springs</b>			
11	.....	gypsum .....	selenite.....
		calcite.....	modified and twin crystals.....
		dolomite.....	curved crystals.....
		quartz.....	crystals .....

**CHAUTAUQUA**

The Devonian shales and sandstones which constitute the rocks of this county do not include

**CHEMUNG**

*See Chautauqua*

**CHENANGO**

*See Chautauqua*

**CLINTON**

<b>Ausable</b>			
12	Arnold hill mines 1½ m. w. Ferrona ...	magnetite .....	medium fine crystalline.....
		fluorite.....	purple and green.....
		pyrite .....	.....
		quartz .....	red jasper .....
13	Cook mine 1½ m. e. Ferrona.....	magnetite .....	medium fine crystalline .....
		calcite.....	sharp needle crystals, radiating ..
		amphibole.....	crystals, dark green to black.....
		" .....	black fibrous hornblende.....
		oligoclase.....	in broadly striated cleavages.....
14	Winter mine 4½ m. e. Ferrona.....	magnetite .....	.....
<b>Black Brook</b>			
15	Palmer hill mines 1½ m. n. Ausable Forks	magnetite .....	coarse grained .....
		orthoclase .....	flesh-colored .....
16	Tremblay's mine 1½ m. w. Clayburg....	magnetite .....	.....
17	Bowen & Signor's mine, Williamsb'g ..	" .....	.....
<b>Chazy</b>			
18	Chazy.....	calcite.....	small nail head crystals.....
<b>Dannemora</b>			
19	Dannemora.....	magnetite .....	.....
20	Chateaugay mines Lyon Mountain....	" .....	coarse crystalline ore.....
		apatite.....	rounded grains .....
21	Lyon Mountain near Roger's field....	pyroxene.....	long, well formed crystals with granular core.....

**COUNTY** (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
11	x.....	in Onondaga limestone.....	calcite, dolomite .....	43
	xx .....	" .....	dolomite.....	140
	xx .....	" .....	calcite.....	140
	.....	" .....	" .....	140

**COUNTY**

mineral localities of sufficient importance to note in this list.

**COUNTY**

county.

**COUNTY**

county.

**COUNTY**

12	x*.....	veins in gneiss.....	quartz, feldspars.....	149, 194
	x.....	" .....	" calcite.....	43
	.....	" .....	" .....	e
	.....	vein in gneiss .....	magnetite .....	e
13	*.....	veins in gneiss.....	.....	e
	.....	" .....	.....	e
	x .....	" .....	magnetite, feldspar .....	e
	.....	in gneiss.....	feldspar .....	e
	x .....	" .....	amphibole (hornblende) ...	e
14	* †.....	" .....	.....	194
15	*.....	" .....	orthoclase .....	149, 194
	.....	" .....	magnetite, quartz .....	149
16	* †.....	.....	.....	149, 194
17	*.....	.....	.....	149
18	.....	fault plane in limestone.....	.....	h
19	*.....	.....	.....	194
20	*.....	in granite.....	apatite, quartz etc.....	194
	.....	" magnetite .....	.....	m
21	.....	" Bostonite dikes .....	plagioclase, olivin.....	159

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Ancram</b>			
22	Ancram lead mines.....	galena.....	foliated and granular.....
		sphalerite.....	yellow and brown colors.....
		chalcopyrite.....	large masses with blue tarnish....
		wulfenite .....	.....
		serpentine.....	.....
23	† m. s.e. Ancram lead mines.....	albite.....	small transparent crystals.....
24	{ Morgan iron mine 2m. n. Ancram lead mines.....	limonite.....	{ loose decomposed ore cut by concretionary siderite.....
		siderite.....	
25	Reynolds mine ½ m. e. Halstead.....	limonite.....	.....
		siderite.....	.....
<b>Austerlitz</b>			
26	.....	chalcocite.....	massive.....
<b>Canaan</b>			
27	.....	chalcopyrite.....	.....
		chalcocite.....	massive.....
<b>Copake</b>			
28	Copake N. Y. & H. R. R. ....	limonite.....	large ore beds.....
		graphite.....	.....
<b>Hillsdale</b>			
29	group of 3 mines, 3m. e. Hillsdale, 3m. n.e. Hillsdale, 1½ m.e. N. Hillsdale....	limonite.....	.....
<b>Greenport</b>			
30	near Hudson.....	gypsum.....	selenite.....
		wad.....	.....
		siderite.....	loose, decomposed material.....
		dolomite .....	grading into ankerite.....
		epsomite.....	efflorescences on slate.....
		calcite .....	small prismatic crystals
<b>Livingston</b>			
31	Burden mines 2 m. s.e. Linlithgo.....	siderite.....	massive material altering to limonite.....
		quartz.....	small crystals.....
<b>Stuyvesant</b>			
32	s. of Cary Brick Co., Coxsackie....	gypsum.....	selenite crystals.....



## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
22	*† . . . .	vein in talcose slate . . . . .	sphalerite, chalcopyrite . . .	5, 43
	*† . . . .	" . . . . .	galena . . . . .	5, 43
	*† . . . .	" . . . . .	sphalerite, galena . . . . .	5, 43
		" . . . . .		5, 43
		" . . . . .		w
23	x . . . .	in quartz vein . . . . .	quartz . . . . .	w
24	{ *† . . .	" slate . . . . .		149, 194
	{ *† . . .	" . . . . .		149, 194
25	*† . . . .			149, 194
				149, 194
26		in quartz vein traversing limestone . . . . .		5
27		in veins of galena . . . . .		43
		" . . . . .		5, 43
28	* . . . .	in slaty rock and limestone . . . . .		43, 149, 194
				43
29	*† . . . .	in crystalline limestone . . . . .		194
30	xx . . . .			43
	x . . . .			43
	x . . . .			43
				43
				5
		in Helderberg limestone . . . . .		w
31	*† . . . .	in shale . . . . .	quartz . . . . .	194
		seams and pockets in iron ore . . . . .	siderite . . . . .	w
32	x . . . .	in clay bank . . . . .		w

**CORTLAND**

The Devonian rocks of this county do not include mineral

**DELAWARE***See Cortland***DUTCHESS**

NO.	LOCALITY	SPECIES	DESCRIPTION
Amenia			
33	Manhattan mine, Sharon Station } Amenia mine, Amenia . . . . . }	limonite. . . . . turgite. . . . . siderite. . . . . chalcopyrite. . . . .	    
Beekman			
33a	Sylvan Lake mines, near Sylvan Lake	limonite. . . . .	
Dover			
34	Dover Plains marble quarry. . . . .	dolomite. . . . . amphibole. . . . .	massive. . . . . tremolite. . . . .
35	Deuel Hollow mine 2m. s.e. South Dover	limonite. . . . .	
36	Dover mine, Dover Furnace station. . .	" . . . . . staurolite. . . . . garnet. . . . .	 small crystals. . . . . small red and brown crystals. . . . .
East Fishkill			
37	Pecksville. . . . .	graphite. . . . . talc. . . . . amphibole. . . . .  pyroxene . . . . .	foliated and granular. . . . . gray and white of uneven structure pale green actinolite and hydrous anthrophyllite. . . . . augite. . . . .
38	Fishkill iron mines East Fishkill. . . . .	limonite. . . . .	
Northeast			
39	near Smithfield. . . . .	chalcocite. . . . . chalcopyrite. . . . . galena. . . . . sphalerite. . . . .	    
40	Riga Mine, Mount Riga. . . . .	limonite. . . . .	
40a	Malby mine, 1½ m. n.e. Millerton . . .	" . . . . .	

## COUNTY

localities of sufficient importance to note in this list.

## COUNTY

county.

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
33	x*†.....	in grayish blue limestone.....	siderite etc.....	149, 194
	x*†.....	".....	limonite.....	43
	x*†.....	".....	".....	43
	.....	".....	".....	5
33a	*†.....	".....	.....	149, 194
34	.....	in crystalline limestone.....	.....	5, 43
	.....	".....	dolomite.....	5, 43
35	x*†.....	".....	.....	149, 194
36	.....	between strata of mica schist.....	.....	149, 194
	.....	in mica schist.....	garnet.....	5, 43
	x.....	".....	staurolite.....	5, 43
37	.....	in vein of granite.....	.....	3
	.....	.....	.....	5, 43
	x.....	in talc and limestone.....	.....	5, 43
	.....	" limestone.....	amphibole, dolomite.....	43
38	x*†.....	" schist.....	.....	149, 194
39	.....	.....	.....	5, 43
	.....	.....	.....	43
	.....	.....	.....	43
	.....	.....	.....	43
40	*†.....	in limestone.....	.....	149, 194
40a	*†.....	".....	.....	149, 194



## DUTCHESS

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Pawling</b>			
41	Pawling mine 2½ m. w.n.w. of Pawling.	limonite.....	.....
<b>Poughkeepsie</b>			
42	s. end of r.r. cut at Mine Point.....	anthracite.....	.....
<b>Unionvale</b>			
43	Clove mine.....	limonite.....	.....
		gibbsite.....	.....

## ERIE

The Devonian rocks in the vicinity of

## ESSEX

<b>Chesterfield</b>			
44	s.w. corner of town.....	magnetite.....	titaniferous.....
<b>Crown Point</b>			
45	iron mines, Hammondsville.....	magnetite.....	medium fine crystalline.....
		pyroxene.....	small black crystals.....
46	1 m. s. Hammondsville.....	apatite.....	elongated terminated prisms.....
		apatite.....	mamillary eupyrcroite.....
		tourmalin.....	fine brown crystals.....
		chlorite.....	.....
		quartz.....	crystals.....
		calcite.....	.....
		pyrite.....	crystals.....
		garnet.....	brown crystals.....
		wernerite.....	.....
		oligoclase.....	aventurin.....
		zircon.....	crystals.....
		chalcopyrite....	.....
		epidote.....	small imperfect crystals.....
47	Skiff mine 2 m. s. Hammondsville....	magnetite.....	.....
<b>Elizabethtown</b>			
48	Gates mine 1m. s.e. New Russia.....	".....	titaniferous.....
<b>Keene</b>			
49	Weston mine 1m. s.w. Keene.....	".....	.....
50	2m. s.e. Keene.....	pyroxene.....	black crystals.....
51	Mount Marcy.....	".....	dillage in foliated masses.....

See also locality 65.

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
41	*†	in limestone		149, 194
42	*†	in green shale	quartz	h
43	*			43
				43

## COUNTY

Buffalo furnish considerable natural gas.

## COUNTY

44	*†	in norite		194
45	*	in gneiss	quartz, plagioclase	149, 194
		"	magnetite	159
46	x	in limestone	calcite	5, 43
	x*†	"	quartz	5, 43, 91
	xx	"	apatite, orthoclase	43
		"		43
		"		43
		"		43
	x	"		5, 43
	x	in gneiss, at contact		43
	x	"	orthoclase, magnetite	43
		"	quartz, "	5, 43
		"		43
		"	quartz	43
			" oligoclase	43
47				194
48	*†	in gabbro		149, 194
49	*†	in crystalline limestone	calcite, epidote	149, 194
50		"	wernerite	159
51		in gabbro		159

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Lewis</b>			
52	Lewis Corners.....	wollastonite....	abundant.....
		labradorite....	dark gray, brilliant play of colors. .
		amphibole....	actinolite, hornblende.....
		arsenopyrite....	massive.....
53	Cross.....	wollastonite....	abundant.....
		garnet.....	colophonite.....
<b>Minerva</b>			
54	Minerva mine.....	magnetite.....	
<b>Moriah</b>			
55	Sanford ore bed 6m. w. Port Henry....	" .....	
		apatite.....	green and brown crystals.....
		allanite.....	large crystals.....
		lanthanite.....	in delicate scales. ....
		amphibole....	actinolite and hornblende.....
56	Mineville, Hall ore bed.....	magnetite.....	medium fine grained.....
		zircon.....	cinnamon red.....
57	Mineville, mine 21 etc.....	magnetite.....	in beautifully developed crystals ..
		zircon.....	large crystals.....
58	6m. n.w. P't H'n'y (Roe's spar bed) ..	tourmalin.....	in prisms sometimes altered inter- nally
		muscovite.....	
		quartz.....	rose quartz.....
	Tredway quarry.....	serpentine....	verd antique marble.....
59	Port Henry (Pease quarry etc.).....	pyroxene.....	jet black massive and crystals.....
		" .....	white & pink diopsid in crystals....
		pyrite.....	crystals.....
		pyrrhotite....	strongly magnetic.....
		graphite.....	massive.....
		amphibole....	hornblende.....
		wollastonite....	crystalline.....
		orthoclase ....	adularia sometimes in minute transparent crystals .....
		titanite.....	yellowish brown.....
		tourmalin.....	brown.....



## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
52	.....	in gabbro .....	garnet, quartz etc.....	5, 43
	x.....	" .....	.....	5
	.....	" .....	.....	5, 43
	.....	" .....	hornblende.....	5, 43
53	.....	" .....	amphibole, garnet.....	5, 43
	.....	" .....	.....	5, 43
54	*†.....	.....	.....	194
55	*†.....	in gneiss.....	apatite, amphibole.....	5, 43, 149, 175, 194
	.....	" .....	.....	5, 43
	xx.....	" .....	magnetite, apatite .....	12, 39, 162
	.....	in fissures in the ore and on allanite....	magnetite, allanite .....	12, 43
	.....	.....	magnetite, allanite.....	5, 43
56	x*.....	in gneiss.....	zircon.....	43, 194
	x.....	" quartz vein.....	magnetite.....	5, 43
57	xx*.....	" gneiss.....	apatite.....	43, 194
	x.....	" quartz.....	magnetite.....	43
58	x.....	" granular limestone.....	.....	5, 43, 98, 221
	.....	" .....	.....	5
	x.....	" .....	.....	5, 43, 98
	x.....	" .....	.....	5, 43, 131
59	x.....	" .....	magnetite.....	5, 159
	x.....	" .....	titanite, amphibole etc.....	5, 159
	x.....	" .....	pyrrhotite.....	5, 43
	.....	" .....	pyrite.....	5, 43
	.....	" .....	tourmalin, pyroxene.....	43
	.....	" .....	oligoclase, quartz .....	98
	.....	" .....	pyroxene, albite.....	5, 43
	x.....	" .....	pyroxene, titanite etc.....	5, 43
	x.....	" .....	amphibole.....	98
	xx.....	" .....	" titanite.....	98

NO	LOCALITY	SPECIES	DESCRIPTION
Moriah (continued)			
60	Mill brook 2m. n.w. of Port Henry....	calcite.....	crystals.....
		quartz.....	smoky.....
		pyroxene.....	
61	Cheever mine 2m. n. Port Henry.....	graphite.....	small hexagonal crystals.....
		magnetite.....	fine crystalline ore.....
		albite.....	greenish.....
		pyroxene.....	augite.....
Newcomb			
62	Adirondack mines near Lake Sanford..	magnetite.....	fine grained titaniferous.....
		labradorite....	deeply striated.....
		hypersthene...	
63	south shore Lake Harris 1m. e. of Newcomb .....	tourmalin.....	brown and green.....
		titanite.....	twinned crystals.....
		zircon.....	greenish black.....
		muscovite.....	yellowish green.....
		wernerite.....	semitransparent.....
		albite.....	opalescent mainly in druses.....
64	McIntyre 2m. s.e. Lake Sanford .....	labradorite....	
		garnet.....	
		magnetite.....	
North Elba			
65	aCascadaville, 6m. s.e. Lake Placid ...	pyroxene.....	light green rounded grains.....
Schroon			
66	Paradox Lake mines.....	magnetite.....	
		calcite.....	fine green translucent masses....
		pyroxene.....	
		chondrodite ..	
		tourmalin.....	crystals.....
		wernerite.....	
Ticonderoga			
67	Chilson lake (Paragon lake).....	apatite.....	
		garnet.....	
		pyroxene.....	crystals and coccolite.....
		vesuvianite ..	
		wernerite.....	
		magnetite.....	
		calcite.....	blue.....

a This locality extends into Keene.

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
60	x.....	in white limestone.....	pyroxene, amphibole, albite.....	5, 43, 98
	x.....	".....	calcite.....	e
		".....	" amphibole etc.....	43
		".....	".....	98
61	x*.....	Grenville schist.....		149, 194
		".....	magnetite.....	5
		".....	" labradorite.....	159
62	*†.....	in gabbro.....	labradorite, hypersthene....	149, 194
		".....	hypersthene.....	43
		".....	labradorite.....	43
63	xx.....	in Grenville limestone.....	apatite, zircon etc.....	135
	x.....	".....	".....	135
	x.....	".....	tourmalin, apatite.....	135
		".....		135
		".....		135
		".....		135
64	x.....	in gabbro.....	magnetite.....	43
		".....		43
	x.....	".....	labradorite.....	43
65		in calcite vein.....		159
66	*†.....	in Grenville limestone.....	proxene, chondrodite.....	194
	x.....	".....	".....	5,43
		".....	wernerite, calcite.....	43
	x.....	".....	tourmalin, wernerite.....	43
		".....	chondrodite etc.....	43
		".....	pyroxene, calcite.....	5
67		contact gneiss and limestone.....		43
	x.....	".....		43
	x.....	".....		5,43
		".....		5,43
	x.....	".....	pyroxene, calcite.....	43
		".....		43
		".....		43

## ESSEX

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Ticonderoga (continued)</b>			
68	Kirby graphite mine 3m. n.w. Ticon'ga	graphite.....	crystals and folia .....
		pyroxene.....	large dark green crystals carrying inclusions of calcite .....
		wernerite..	perfect crystals.....
		titanite.....	yellowish gray crystals .....
		tourmalin.....	black .....
		apatite.....	.....
		calcite.....	light yellow .....
		quartz .....	.....
69	Mount Defiance .....	pyroxene.....	salite.....
		magnetite.....	.....
		cacoxenite.....	.....
70	Rogers Rock.....	graphite.....	.....
		wollastonite.....	.....
		garnet.....	crystallized and massive colo- phonite.....
		orthoclase .....	brown, red and yellow adularia..
		pyroxene.....	massive and granular coccolite..
		titanite.....	abundant small, brown crystals..
		calcite.....	masses of minute crystals.....
<b>Westport</b>			
71	Splitrock mine 5m. n.e. Westport .....	magnetite .....	fine grain titaniferous .....
		graphite.....	.....
		labradorite.....	.....
		prehnite.....	chiltonite.....
<b>Willsboro</b>			
72	.....	wollastonite.....	.....
		garnet.....	colophonite.....
		pyroxene.....	green coccolite .....
		amphibole.....	hornblende in interesting forms..
		quartz .....	milky.....

## FRANKLIN

The rocks of this county afford no recorded mineral localities of sufficient importance

## FULTON

The rocks of this county afford no recorded mineral localities of sufficient importance

## GENESEE

Salt is mined and obtained in solution from the rocks of the Salina by drilling



## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
68	xx*	in crystalline limestone and mica schist	calcite . . . . .	43, 135
	xx	"	graphite wernerite . . . . .	5, 43, 135
	x	contact limestone and gneiss. . . . .	" pyroxene etc . . . . .	5, 43, 135
		in white granular and lamellar feldspar.	pyroxene, wernerite. . . . .	5, 43, 135
		"	wernerite, pyroxene. . . . .	5, 43, 135
			" . . . . .	135
		vein mineral. . . . .		135
		" . . . . .		135
69				5
				194
				5, 43
70	x	in crystalline limestone . . . . .	pyroxene titanite. . . . .	43
	x	" . . . . .	garnet, orthoclase. . . . .	5, 43
	x	" . . . . .		5, 43
		" . . . . .		5, 43
	x	" . . . . .	orthoclase, titanite . . . . .	5, 43
		" . . . . .		5, 43
		" . . . . .		5
71	*†	in norite . . . . .		149, 194
		" . . . . .		m
		" . . . . .		5, 43
		" . . . . .		43
72	x	in vein traversing gabbro . . . . .	garnet. . . . .	5, 43
	x	" . . . . .	wollastonite, pyroxene. . . . .	5
	x	" . . . . .	" titanite, garnet. . . . .	5, 43, 175
		" . . . . .	black tourmalin . . . . .	5, 43
		" . . . . .		e

## COUNTY

to note in this list though minor localities undoubtedly occur in the crystalline rocks.

## COUNTY

to note in this list though minor localities undoubtedly occur in the crystalline rocks.

## COUNTY

through the Devonian rocks which cover the southern section of this county.

## GREENE

NO.	LOCALITY	SPECIES	DESCRIPTION
Catskill			
73	Diamond hill, Catskill. . . . .	quartz. . . . .	fine large crystals. . . . .
74	Austin's glen 2m. n.w. Catskill. . . . .	calcite. . . . .	massive and coarsely crystallized. . . . .
		quartz. . . . .	small crystals. . . . .
New Baltimore			
75	limestone quarry at New Baltimore. . . . .	calcite. . . . .	interesting crystals. . . . .
		quartz. . . . .	crystals in parallel position. . . . .

## HAMILTON

The rocks of this county afford no recorded mineral localities of sufficient importance to note

## HERKIMER

Fairfield			
76	Diamond hill 3m. n.e. Fairfield.....	quartz.....	crystals.....
		barite.....	massive yellowish white.....
Little Falls			
77	Little Falls.....	quartz.....	brilliant transparent crystals...
		barite.....	yellowish white lamellar masses...
		dolomite.....	white and pearly crystals.....
78	1m.s. L. Falls in bed of small stream....	calcite.....	white crystals.....
		ankerite.....	} included under brown spar.....
		siderite.....	
		orthoclase.....	flesh colored cleavages.....
Newport			
79	Middleville.....	quartz.....	detached crystals and groupings..
		calcite.....	flat crystals nail head type.....
		dolomite.....	white and pearly crystals.....
80	Newport.....	quartz.....	detached crystals.....
Salisbury			
81	Salisbury.....	quartz.....	crystals larger than preceding....
82	near Salisbury Center....	sphalerite.....	
		galena.....	
		pyrite.....	
		chalcopyrite...	
83	.....	pyroxene.....	green coccolite.....
Stark			
84	near Starkville.....	celestite.....	fibrous, bluish or blue.....
		gypsum.....	

## COUNTY

NO.	QUANTITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
73	x.....	embedded in stiff clay bet. layers of slate.....	.....	5, 27, 43
74	.....	veins in shale.....	quartz.....	w
	.....	".....	calcite.....	w
75	x.....	in Helderberg limestone.....	.....	p
	xx.....	".....	.....	e

## COUNTY

in this list though minor localities undoubtedly occur in the crystalline rocks.

## COUNTY

76	x.....	in Beekmantown limestone.....	barite.....	5, 43
	.....	".....	quartz.....	5, 43
77	xx.....	in cavities in Beekmantown limestone..	barite, calcite.....	5, 43
	.....	" Beekmantown limestone.....	quartz dolomite.....	5, 43
	.....	".....	calcite quartz.....	5
78	.....	Trenton limestone.....	siderite, orthoclase.....	5, 43
	.....	".....	calcite.....	43
	.....	".....	.....	5
79	xx.....	in cavities in Beekmantown limestone..	calcite, dolomite.....	5, 43
	x.....	" Beekmantown limestone.....	quartz ".....	5, 43
	.....	" cavities in Beekmantown limestone..	.....	5, 43
80	x.....	".....	.....	5, 43
81	xx.....	".....	.....	5, 43
82	.....	vein in gneiss.....	.....	5, 43
	.....	".....	.....	5, 43
	.....	".....	.....	43
	.....	".....	.....	5, 43
83	.....	in Beekmantown limestone.....	calcite.....	5
84	.....	in Salina waterlime.....	gypsum.....	5, 43
	.....	".....	celestite.....	43

## JEFFERSON

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Adams</b>			
85	near North Adams.....	fluorite.....	pink and green.....
		barite.....	.....
<b>Alexandria</b>			
86	High island, St Lawrence river.....	tourmalin.....	long prisms.....
		amphibole.....	.....
		orthoclase.....	.....
		celestite.....	.....
87	Omar.....	beryl.....	.....
		hematite.....	.....
<b>Antwerp</b>			
88	Antwerp, Sterling mine.....	hematite.....	bright flat crystals and massive red
		stilpnomelane..	chalcodite in velvety brown masses
		siderite.....	small crystals and crystal. masses.
		ankerite.....	"
		millerite.....	capillary crystals lining cavities...
		quartz.....	small transparent crystals.....
		".....	chalcedony.....
		sphalerite.....	modified crystal (rare).....
		serpentine.....	red and green concentric bands...
89	aOxbow, west shore of Yellow lake...	calcite.....	large crystals and cleavages.....
		barite.....	porous coralloid.....
90	near Vrooman's lake.....	calcite.....	cleavage masses.....
		fluorite.....	green cubes.....
		pyrite.....	.....
		chalcopyrite...	.....
		vesuvianite....	terminated crystals.....
		phlogopite.....	.....
		pyroxene.....	green crystals.....
		titanite.....	.....
91	2m. s.w. Oxbow.....	limonite.....	bog iron ore.....
		serpentine.....	yellowish green.....
92	.....	orthoclase.....	.....
		wernerite.....	.....
		tourmalin.....	yellow (rare).....

a See also St Lawrence county.



## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
85	.....	in limestone.....	barite.....	43, 77
	.....	“ .....	fluorite.....	43, 77
86	x.....	in gneiss.....	amphibole, orthoclase.....	5, 43, 77
	.....	“ .....	tourmalin, orthoclase....	5, 43
	x.....	“ .....	“ etc.....	5, 43
	.....	in limestone.....		43
87	x.....	“ gneiss.....	feldspar.....	43
	.....	“ .....		43
88	x*.....	in gneiss.....	siderite, quartz etc.....	5, 43
	xx.....	“ .....	calcite, hematite.....	20, 43
	x.....	“ .....	hematite.....	43
	x.....	“ .....	“ .....	43
	xx.....	“ .....	“ .....	43, 78
	.....	“ .....	“ siderite etc.....	43
	x.....	“ .....	“ “ .....	c
	x.....	“ .....	“ .....	w
	.....	“ .....	“ .....	w
89	xx.....	in limestone.....		5, 43
	.....	“ .....	calcite.....	43
90	xx.....	vein in limestone.....	fluorite.....	43
	x.....	“ .....	calcite.....	43
	.....	“ .....		43, 77
	.....	“ .....		43, 77
	.....	“ .....	pyroxene, titanite.....	43, 77
	xx.....	in gneiss.....	“ .....	43
	x.....	“ .....	titanite, phlogopite.....	5, 43
	.....	“ .....	pyroxene.....	43, 77
91	x.....	“ .....	orthoclase.....	43
	x.....	in vein of crystalline limestone.....		5, 43
92	x.....	“ gneiss.....	wernerite.....	43
	.....	“ .....	orthoclase, titanite.....	43
	.....	“ .....		43

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Brownville</b>			
93	Brownville, banks of Black river.....	celestite.....	slender crystals .....
		calcite.....	.....
94	Pillar Point, Lee farm on n. shore.....	barite.....	massive banded structure .....
<b>Clayton</b>			
95	near Depauville.....	celestite.....	.....
<b>Lyme</b>			
96	Chaumont, Chaumont bay.....	" .....	slender white radiating needles ..
<b>Philadelphia</b>			
97	Shirliff mine, Philadelphia.....	hematite.....	.....
98	Indian river.....	garnet.....	.....
<b>Theresa</b>			
99	Theresa.....	fluorite.....	.....
		calcite.....	.....
		hematite.....	.....
		amphibole.....	.....
		serpentine .....	.....
		celestite.....	white crystalline masses.....
		strontianite....	" .....
100	s.e. bank of Muscalonge lake.....	fluorite.....	sea-green cubes.....
		phlogopite.....	.....
		chalcopyrite....	.....
		apatite.....	.....
<b>Watertown</b>			
101	banks of Black river.....	amphibole.....	white tremolite also brown & gray.
<b>Wilna</b>			
102	Natural Bridge.....	muscovite (giseckite) .....	in six sided prisms pseudomorphs after nephelite.....
		talc (steatite)..	pseudomorphs after apatite pyroxene, orthoclase etc.....
103	1m. n. Natural Bridge.....	calcite.....	modified white crystals .....
	2m. e. Natural Bridge, <i>see</i> Lewis co.		

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
93	.....	Trenton limestone.....	calcite.....	5, 43, <i>w</i>
	.....	“ .....	celestite.....	43, <i>w</i>
94	*†.....	“ .....	calcite.....	5, 43, 77, <i>w</i>
95	.....	“ .....	.....	5
96	.....	“ .....	.....	5, 43
97	*†.....	in gneiss.....	.....	194
98	x.....	“ .....	.....	43
99	x.....	gneiss limestone contact.....	calcite, quartz.....	43
	x.....	“ .....	fluorite.....	43
	.....	“ .....	serpentine.....	43
	.....	“ .....	.....	43
	.....	“ .....	hematite.....	43
	.....	“ .....	calcite fluorite.....	43, 77
	.....	“ .....	“ .....	43
100	xx.....	in limestone gneiss contact.....	calcite, apatite.....	5, 43
	x.....	“ .....	“ .....	43
	.....	“ .....	.....	5, 43
	.....	“ .....	.....	43
101	.....	in Grenville limestone.....	calcite.....	5, 43
102	xx .....	in decomposed Grenville limestone.....	.....	43
	.....	“ .....	.....	43
103	.....	in Grenville limestone.....	.....	5, 43

## LEWIS

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Diana</b>			
104	2m. e. Natural Bridge (Ashmore's f'rm)	apatite.....	large green crystals .....
		wernerite.....	white, bluish and dark gray crystals
		pyroxene .....	dark green to black crystals augite
		amphibole.....	tremolite .....
		talc.....	rensselaerite.....
		wollastonite....	abundant white crystals .....
		serpentine.....	variegated.....
		titanite.....	dark brown crystals.....
		zircon.....	rare.....
		quartz.....	doubly terminated crystals.....
		calcite.....	blue.....
		graphite.....	.....
		orthoclase.....	modified crystals.....
		hematite .....	.....
105	Harrisville, 2m. e. Bonaparte lake....	wollastonite....	large crystals.....
<b>Greig</b>			
106	Greig .....	magnetite.....	.....
		pyrite .....	.....
<b>Martinsburg</b>			
107	vicinity of Martinsburg, $\frac{1}{2}$ m. n.w. of Martinsburg.....	calcite.....	prismatic, terminated crystals....
		fluorite.....	green, nearly transparent crystals.
		pyrite.....	.....
		galena.....	modified cubes.....
		sphalerite.....	granular, massive.....

## [ LIVINGSTON

Salt and gypsum are obtained from the rocks of the Salina in a number of localities; sec-

## MADISON

The rocks of this county afford no recorded mineral

## MONROE

<b>Rochester</b>			
108	Pike's quarry.....	dolomite.....	in geodes.....
		calcite.....	in geodes also stalactites.....
		gypsum.....	selenite and snowy.....



## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
104	XX.....	limestone syenite contact.....	calcite.....	5, 43
	XX.....	" .....	" .....	5
	XX.....	" .....	wernerite.....	5, 43, 155
				159, <i>i</i>
	X.....	" .....	calcite.....	43
	X.....	" .....	" serpentine .....	43, 77
	XX.....	" .....	" pyroxene .....	5, 43, 77, <i>i</i>
		" .....	talc.....	43
	X.....	" .....	wernerite, pyroxene.....	5, 43, <i>i</i>
		" .....	" .....	5, 43, 77
	X.....	" .....		43
		" .....	wernerite, pyroxene.....	<i>i</i>
		" .....	" .....	43
		" .....	" .....	<i>i</i>
		" .....	" .....	43
105		in decomposed Grenville limestone.....		43, <i>c</i>
106		in gneiss.....		43, 77
		" .....		43, 77
107	X.....	in Trenton limestone.....	fluorite, galena etc.....	5, 43
		" .....	calcite, pyrite, galena.....	5, 43
		" .....	galena, sphalerite, fluorite..	5, 43
		" .....	pyrite, sphalerite.....	5, 43
		" .....	" <sup>sp</sup> galena.....	5, 43

## COUNTY

ondary celestite, barite and calcite are also found in septaria in Genesee shale at several places.

## COUNTY

localities of sufficient importance to note in this list.

## COUNTY

108	X.....	in Niagara limestone.....	calcite, celestite, gypsum....	5, 43, <i>h</i>
		" .....	dolomite etc.....	43, <i>h</i>
		" .....	" .....	43

## MONROE

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Rochester</b> ( <i>continued</i> )		
	Pike's quarry ( <i>continued</i> ) . . . . .	celestite . . . . .	nodular . . . . .
		fluorite . . . . .	occasionally in cubes . . . . .
		barite . . . . .	massive snowy . . . . .
		galena . . . . .	. . . . .
		sphalerite . . . . .	honey-brown crystals . . . . .
108a	Gorge of Genesee river . . . . .	hematite . . . . .	Clinton ore . . . . .

## MONTGOMERY

	<b>Palatine</b>		
109	2m. e. Spraker's Basin . . . . .	quartz . . . . .	singly terminated crystals and drusy masses . . . . .
		" . . . . .	chalcedony . . . . .
		garnet . . . . .	. . . . .
		anthracite . . . . .	. . . . .
	<b>Root</b>		
110	on Flat Creek 1½ m. s.e. Spraker's B's'n	sphalerite . . . . .	minute transparent light yellow crystals . . . . .
		barite . . . . .	lamellar masses . . . . .
		galena . . . . .	. . . . .
		pyrite . . . . .	massive . . . . .
		calcite . . . . .	stalactitic . . . . .
		dolomite . . . . .	brown and pearly . . . . .
111	near Spraker's Basin . . . . .	rutile . . . . .	minute crystals . . . . .

## NASSAU

The rocks of this county are deeply covered with drift and artificially

## NEW YORK

112	Corlaer's hook, Canal st. and East river	hypersthene . . . . .	. . . . .
113	Kip's bay, 34th st. and East river . . . . .	heulandite . . . . .	. . . . .
114	38th st. and East river . . . . .	epidote . . . . .	. . . . .
		orthoclase . . . . .	pinkish crystals . . . . .
115	42d st. and 4th av . . . . .	siderite . . . . .	spheric aggregates . . . . .
		dolomite . . . . .	crystals . . . . .
116	43d-44th st. and 1st-3d av . . . . .	molybdenite . . . . .	disseminated scales . . . . .
		calcite . . . . .	crystals crusted with pyrite . . . . .
		beryl . . . . .	small crystals . . . . .
		tourmalin . . . . .	black crystals . . . . .
		muscovite . . . . .	large brown crystals . . . . .
		oligoclase . . . . .	. . . . .
		garnet . . . . .	. . . . .
117	W. 35th st. . . . .	garnet . . . . .	large crystal, 6 inches diameter . . . . .

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
		in Niagara limestone.....	dolomite etc.....	5, 43
		“ .....	“ .....	5, 43
		“ .....	“ .....	43, <i>h</i>
		“ .....	sphalerite.....	5, 43
		“ .....	galena, calcite, gypsum.....	5, <i>h</i>
108a	*†.....	“ .....	“ .....	<i>m</i>

## COUNTY

109	in gneiss.....	garnet.....	5, 43
	“ .....	“ .....	5, 43
	“ .....	quartz.....	5, 43
	“ .....	“ .....	43
110	in Trenton limestone.....	galena, barite.....	5, 43
	“ .....	“ sphalerite, calcite.....	5, 43
	“ .....	barite “ .....	43
	“ .....	“ “ .....	5, 43
	“ .....	galena, sphalerite etc.....	5, 43
	“ .....	“ .....	5
111	in Beekmantown limestone.....	“ .....	5, 124

## COUNTY

made land; deep excavations may however develop mineral localities.

## COUNTY

112	granite boulder.....	“ .....	5, 28
113	on mica schist.....	stilbite.....	43
114	granite vein.....	orthoclase, prochlorite.....	5
	“ .....	epidote.....	5, 43, <i>c</i>
115	“ .....	dolomite.....	<i>e</i>
	“ .....	siderite.....	<i>e</i>
116	in mica schist.....	kalinite.....	61
	“ .....	“ .....	61
	“ .....	“ .....	61
	quartz vein.....	oligoclase, muscovite.....	5
	“ .....	“ tourmalin.....	<i>c</i>
	“ .....	muscovite “ .....	<i>c</i>
	“ .....	“ “ .....	<i>c</i>
117	xx in mica schist.....	muscovite.....	43

## NEW YORK

NO.	LOCALITY	SPECIES	DESCRIPTION
118	Between 42d and 51st st. and 4th and 5th av.....	cyanite.....	
119	49th st. and 1st av.....	beryl.....	
120	Between 54th and 62d st., 10th av. to river.....	amphibole.....	hydrous anthophyllite.....
		serpentine.....	dark green.....
121	55th-56th st. and 1st-3d av.....	siderite.....	sphaerosiderite.....
122	69th-70th st. and 2d av.....	ilmenite.....	
		garnet.....	
123	64th st. and 10th av.....	stilbite.....	small sheaflike aggregates.....
124	65th st. and Boulevard.....	garnet.....	large, handsome crystals.....
		orthoclase.....	crystals.....
125	10th av.....	vesuvianite.....	
		garnet.....	
126	85th-86th st. and 9th-10th av.....	siderite.....	sphaerosiderite.....
		albite.....	small fine crystals.....
127	95th-105th st. and 3d-Lexington av....	ilmenite.....	
		garnet.....	
		stilbite.....	
		datolite.....	
128	100th-101st st. and 5th av.....	epidote.....	granular, decomposed.....
		albite.....	small fine crystals.....
		ilmenite.....	thin plates.....
		chabazite.....	translucent flesh-colored crystals..
129	102d st. and 4th av.....	garnet.....	crystals.....
		tourmalin.....	black.....
130	4th av. tunnel excavations.....	stilbite.....	radiated aggregates.....
		harmotome.....	small brown crystals.....
		apophyllite.....	
		natrolite.....	
131	120th st. and Hudson river.....	staurolite.....	small crystals.....
132	115th-122d st. and 4th-5th av.....	dumortierite....	azure blue.....
		sillimanite.....	fibrolite.....
133	138th st. and 11th av.....	epidote.....	
134	155th st. and 10th av.....	xenotime.....	small well modified crystals.....
		monozite.....	
		zircon.....	small acutely terminated crystals..
		garnet.....	" rough crystals.....



## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
118	.....	in hornblende schist.....	oligoclase, quartz, garnet....	43
119	x.....	“.....	.....	161
120	.....	“ mica schist.....	serpentine.....	5, 43
	.....	“.....	amphibole.....	43
121	.....	“.....	.....	c
122	.....	“.....	orthoclase.....	c
	.....	“.....	“.....	c
123	.....	“.....	pyrite.....	e
124	xx.....	“.....	albite.....	e
	.....	“.....	muscovite.....	e
125	.....	granite boulder.....	orthoclase, garnet.....	c
	.....	“.....	vesuvianite.....	c
126	.....	in crystalline schist.....	muscovite.....	c
	.....	“.....	“.....	c
127	.....	in mica schist.....	garnet, albite.....	c
	.....	“.....	ilmenite.....	c
	on	“.....	datolite.....	5
	.....	“.....	stilbite.....	5
128	.....	in “.....	mica.....	w
	.....	“.....	on epidote.....	w
	.....	in hornblende schist.....	clinocllore.....	e
	.....	“.....	“.....	e
129	.....	in mica schist.....	tourmalin.....	e
	.....	“.....	.....	e
130	.....	on “.....	harmotome.....	5, 8
	.....	“.....	stilbite etc.....	5
	.....	“.....	“.....	8
	.....	“.....	“.....	8
131	.....	in mica schist.....	garnet.....	5, 43
132	xx.....	“ pegmatite vein.....	oligoclase, quartz.....	43, 49, 165
	.....	“ mica schist.....	.....	43
133	.....	“ hornblende schist.....	.....	43
134	x.....	“ pegmatite vein.....	monozite.....	138, 70
	.....	“.....	zircon, garnet.....	138
	.....	in pegmatite vein.....	garnet, quartz.....	e
	.....	“.....	zircon, quartz.....	e

## NEW YORK

NO.	LOCALITY	SPECIES	DESCRIPTION
135	159th st. and 11th av.....	beryl.....	small opaque crystals.....
136	Washington h'ts 171st st. & 11th av....	xenotime.....	small yellowish brown crystals....
		monozite.....	small crystals and parallel growths
		zircon.....	small, slender, prismatic crystals..
		dumortierite...	filiform inclusions and fibrous....
		muscovite.....	large crystals.....
		autunite.....	.....
137	176th-178th st. and 11th av.....	rutile.....	.....
		tourmalin.....	black.....
		garnet.....	almandite.....
138	180th st. & 10th av. (C. A. shaft 26)...	serpentine.....	.....
		rutile.....	.....
139	200th st. and 10th av.....	cyanite.....	light yellow.....
140	Fort George.....	tourmalin.....	black.....
		muscovite.....	green rhombic crystals.....
		garnet.....	grossularite.....
		titanite.....	greenish yellow crystals.....
		orthoclase.....	crystallized.....
		oligoclase.....	moonstone.....
		zircon.....	minute crystals.....
		amphibole.....	hornblende and actinolite.....
		malachite.....	radiating tufts.....
		stilbite.....	sheaflike aggregates.....
		epidote.....	small brilliant crystals also gran'lar
141	½ m. s. of Kings bridge.....	amphibole.....	tremolite.....
		prochlorite.....	.....
		titanite.....	brown and black.....
142	Inwood.....	amphibole.....	hydrous anthophyllite.....
		tourmalin.....	small brown crystals.....
		pyroxene.....	.....
143	Kings bridge (ship canal).....	pyrite.....	small brilliant crystals.....
		rutile.....	acicular, striated crystals.....
		pyroxene.....	malacolite.....
		tourmalin.....	green and brown prisms trigonal habit..
		amphibole.....	tremolite.....

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
135		in pegmatite vein.....	quartz.....	e
136	x	"	monozite, tourmalin.....	82
	x	"	xenotime, tourmalin.....	82
		"	"	82
		"	"	82
		"	"	82
		"	quartz, muscovite.....	82
137		in mica schist.....	calcite.....	c
		" pegmatite vein.....	quartz, orthoclase.....	e
		"	"	e
138				131
		in crystalline limestone.....	pyrite.....	e
139		in pegmatite vein.....	orthoclase.....	e
140		"	" quartz.....	e
	xx	"	"	e
		"	" muscovite.....	e
	x	"	"	e
		"	muscovite, tourmalin.....	e
		"	quartz.....	e
		"	" tourmalin.....	e
		"	orthoclase, quartz.....	e
	x	"	"	e
		"	"	e
		"	"	e
141		in dolomitic limestone.....	graphite.....	5
		"	amphibole.....	5
		"	"	5
142		"	serpentine.....	43
		"		43
				m
143	x	in dolomitic limestone.....	rutile, amphibole.....	5, 43, 133
		"	quartz, dolomite.....	5, 133
		"	tourmalin, muscovite.....	43
		"		
		"	amphibole pyrite.....	5, 43
		"	rutile.....	5, 43

## NEW YORK

NO.	LOCALITY	SPECIES	DESCRIPTION
	Kings bridge (ship canal).....	muscovite.....	pale green, transparent crystals...
		quartz.....	clear and smoky crystals.....
		dolomite.....	crystals and massive.....
144	1m. n.e. Central bridge.....	clinochlore.....	green scales.....
145	Tremont (H. R. R. cut).....	kaolinite.....	gray, red and yellow.....
146	Morrisania.....	tourmalin.....	brown.....
147	Spuyten Duyvil.....	amphibole.....	asbestos.....
148	West Farms.....	titanite.....	small, reddish brown prisms.....
		epidote.....	.....
		amphibole.....	tremolite.....
		chabazite.....	crystals lining walls of seams.....
		heulandite.....	".....
		stilbite.....	".....
		apatite.....	.....
		garnet.....	.....

## NIAGARA

	<b>Lewiston</b>		
149	.....	epsomite.....	.....
		calcite.....	lining geodes.....
		chalcopyrite.....	.....
	<b>Lockport</b>		
150	Lockport (canal cutting).....	celestite.....	lamellar, white and bluish white, opaque to transparent. Lin- ing geodes.....
		calcite.....	white and yellow dogtooth spar....
		gypsum.....	selenite and snowy.....
		anhydrite.....	blue, massive.....
		fluorite.....	occasionally in cubes.....
		dolomite.....	white & pink crystals lining geodes
		sphalerite.....	honey and wax yellow crystals, often transparent.....
	<b>Niagara</b>		
151	Niagara Falls.....	calcite.....	crystals lining geodes.....
		dolomite.....	pink to white crystals.....
		fluorite.....	.....
152	Niagara Falls, Goat island.....	sphalerite.....	in imperfect crystals.....

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
		in dolomitic limestone.....	amphibole, pyrite.....	5, 43, 133
		“ .....	dolomite pyrite.....	133, c, e
		“ .....	quartz etc.....	5, 133
144		“ .....		43
145		“ .....		123, 126
146		in pegmatite vein .....		e
147		“ mica schist .....		43
148		granite dikes.....	epidote, amphibole.....	5, 43
		“ .....	amphibole, orthoclase .....	5, 43
		“ .....	quartz etc.....	5, 43
		“ .....	stilbite, heulandite.....	5, 43
		“ .....	chabazite, stilbite.....	5, 43
		“ .....	heulandite.....	5, 43
		in mica schist.....	garnet, muscovite.....	5, 43
		“ .....	muscovite.....	5, 43

## COUNTY

149		on limestone.....		43
		in “ .....		5
		“ .....	malachite (?).....	5
150	x	in Niagara limestone .....	calcite, dolomite etc.....	5, 43, k
	xx	“ .....	dolomite, celestite etc.....	43, k
	x	“ .....	“ anhydrite.....	5, 43, k
	x	“ .....	calcite, gypsum.....	5, 43, k
	x	“ .....	celestite “ .....	5, 43, k
	x	“ .....	calcite, celestite, gypsum.....	5, 43, k
		“ .....		5, 43
151	x	in Niagara limestone.....	dolomite, celestite.....	43
	x	“ .....	calcite, celestite, gypsum.....	5, 43
		“ .....	“ .....	43
152		in Lockport limestone.....		5, 43



## ONEIDA

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Boonville</b>			
153	near Boonville w. bank Dry Sugar river	calcite . . . . .	prismatic and nail head crystals . .
		wollastonite. . . . .	
		pyroxene. . . . .	coccolite. . . . .
		garnet. . . . .	
<b>Kirkland</b>			
154	Clinton, near Hamilton College. . . . .	sphalerite. . . . .	yellow, nearly transparent crystals
		strontianite. . . . .	in geodes, coating celestite. . . . .
		celestite. . . . .	in geodes. . . . .
155	Elliott and Paddon mines. . . . .	hematite. . . . .	oolitic. . . . .
<b>New Hartford</b>			
156	Davis ore bed. . . . .	hematite. . . . .	oolitic. . . . .
		wollastonite. . . . .	fibrous. . . . .
<b>Rome</b>			
157	near Rome. . . . .	sphalerite. . . . .	yellow, massive. . . . .
<b>Vernon</b>			
158	near Vernon. . . . .	" . . . . .	" . . . . .
<b>Verona</b>			
158a	Verona . . . . .	hematite . . . . .	oolitic. . . . .

## ONONDAGA

<b>Camillus</b>			
159	Camillus railroad cut. . . . .	gypsum . . . . .	selenite and fibrous. . . . .
		sulfur. . . . .	small masses in beds of earthy gypsum. . . . .
		calcite. . . . .	small incrusting crystals & fibrous. . . . .
<b>Manlius</b>			
160	Fayetteville 1m. n. of town. . . . .	gypsum. . . . .	occasionally in crystals, selenite. . . . .
		fluorite. . . . .	deep purple cubes. . . . .
<b>Salina</b>			
161	Liverpool. . . . .	gypsum. . . . .	fibrous. . . . .
162	Syracuse. . . . .	halite. . . . .	brine solution from wells etc. . . . .
		serpentine. . . . .	
		perovskite. . . . .	
		celestite. . . . .	
		gypsum. . . . .	selenite. . . . .
		barite. . . . .	interlaced plates. . . . .

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
153	x	veins in limestone.....		43
	x	in boulders.....	garnet pyroxene.....	5, 43
	x	" .....	" wollastonite.....	5, 43
		" .....	pyroxene " .....	5, 43
154		in shale and sandstone.....	hematite.....	5
		" Clinton and Niagara limestone.....	celestite.....	43, 168
		" .....	strontianite.....	43
155	*†	in shale and limestone.....		149, 194
156	*	" .....		149, 194
		" .....		71
157				5
158				5
158a	*†	Clinton shale and limestone.....		149

## COUNTY

159		in Salina waterlime.....	sulfur.....	5, 43
		" .....	gypsum.....	5
		" .....	" .....	43
160		" .....	fluorite.....	5, 43, p
		" .....	gypsum.....	5, 43
161		in Salina.....		186
62	*	" .....		66, 121, 192
	x	" .....	perovskite.....	225, 226
		" .....	serpentine.....	226
		" .....	gypsum, barite.....	43
		" .....	celestite " .....	43
		" .....	gypsum, celestite.....	5, 43

## ONTARIO

The Devonian rocks of this county have been suc-

## ORANGE

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Blooming Grove</b>			
163	Craigsville.....	quartz .....	crystals and heliotrope .....
164	½ m. n.w. Washingtonville.....	labradorite.....	.....
<b>Cornwall</b>			
165	Deer hill 3m. s. of Cornwall.....	ilmenite.....	.....
<b>Highlands</b>			
166	Bog Meadow pond 3m. w. of W. Point	zircon.....	white, reddish brown & black.....
		chondrodite ..	granular .....
		spinel .....	black and green .....
		orthoclase .....	white, opalescent .....
		epidote.....	massive and somewhat fibrous....
		pyroxene.....	coccolite.....
		amphibole.....	.....
167	4m. s.e. Woodbury furnace.....	" .....	.....
		calcite.....	.....
		fosterite.....	boltonite .....
		magnetite .....	.....
		spinel .....	.....
168	Forest of Dean mine .....	pyroxene.....	coccolite, sahlite.....
	5m. s.w. West Point .....	forsterite.....	boltonite .....
		spinel .....	large crystals, black and green....
		magnetite .....	.....
		amphibole.....	pargasite .....
		wernerite .....	.....
		zircon .....	reddish brown and black .....
169	West Point.....	molybdenite.....	.....
		amphibole.....	tremolite, actinolite.....
		tourmalin.....	.....
		garnet.....	common.....
		epidote.....	.....
		pyroxene.....	diallage .....
		orthoclase.....	in crystals often flesh-color .....
		mica .....	.....
		wernerite.....	large, white, compact masses.....
		titanite.....	.....
		allanite.....	tabular crystals.....

## COUNTY

cessfully drilled for natural gas in several localities.

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
163	.....	veins in slate.....	.....	5, 43
164	.....	.....	.....	43, 74
165	.....	.....	.....	5, 43
	.....	.....	.....	5, 43
166	x .....	in crystalline limestone.....	chondrodite, spinel.....	5, 43
	x .....	“ .....	spinel etc.....	5, 43
	x .....	“ .....	chondrodite, zircon .....	5, 43
	x .....	“ .....	epidote .....	5
	x .....	“ .....	orthoclase .....	5, 43
	.....	“ .....	.....	43
	.....	“ .....	.....	5, 43
167	.....	in gneiss limestone contact.....	spinel etc.....	5, 43
	.....	“ .....	amphibole.....	74
	x .....	“ .....	.....	74
	.....	“ .....	.....	74
	.....	“ .....	.....	74
168	x .....	in crystalline limestone .....	spinel wernerite .....	74, 43
	.....	“ .....	pyroxene.....	74
	x .....	“ .....	“ .....	43, 74, 5
	* .....	“ .....	spinel, pyroxene.....	74, 149, 194
	.....	“ .....	“ .....	43, 74
	.....	“ .....	“ .....	43, 74
	.....	“ .....	“ .....	43, 74
169	.....	in gneiss.....	tourmalin.....	35
	x .....	“ syenite.....	.....	35
	.....	“ gneiss.....	molybdenite.....	35
	.....	“ .....	tourmalin.....	35
	.....	“ .....	“ pyroxene.....	35
	.....	“ .....	“ titanite.....	35, 95
	x .....	“ .....	“ .....	5, 43
	x .....	“ .....	“ .....	43
	.....	“ .....	pyroxene.....	5, 43
	x .....	“ .....	“ .....	43
	.....	“ .....	“ wernerite.....	43, 10

## ORANGE

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Highlands (continued)</b>		
170	West Point, Constitution island. ....	molybdenite .....	
		magnetite .....	
	<b>Monroe</b>		
171	O'Neil mine 1m. e. Mombasha. ....	magnetite .....	large grains. ....
	2m. s.w. Turners. ....	garnet. ....	colophonite. ....
		pyroxene. ....	large, greenish black crystals. ....
		" .....	coccolite, green. ....
		amphibole. ....	hornblende, amianthus. ....
		serpentine. ....	yellow and black. ....
		dimagnetite. ....	perhaps a magnetic pseudomorph after ilvaite. ....
		biotite. ....	
		hortonolite. ....	
172	Clove mine near Turners. ....	biotite. ....	
		amphibole. ....	hornblende, asbestos. ....
		orthoclase. ....	
		serpentine. ....	
		hydrophite. ....	jenkinsite. ....
		calcite. ....	
		chromite. ....	
	<b>Mt Hope</b>		
173	Erie mine, Guymard. ....	galena. ....	
	<b>Tuxedo</b>		
174	Tuxedo Park. ....	epidote. ....	
175	1/4 m. e. Arden. ....	pyroxene. ....	green, grayish green and gray crystals. ....
		biotite. ....	anomite. ....
		chondrodite. ....	light yellow grains. ....
		spinel. ....	black and green. ....
		wernerite. ....	meionite. ....
		amphibole. ....	hornblende. ....
176	3m. s.e. Arden. ....	pyroxene. ....	salite, coccolite. ....
177	Greenwood furnace, Arden. ....	" .....	diopsid. ....
		chondrodite. ....	
		biotite. ....	anomite. ....
		spinel. ....	



## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
170		in gneiss.....		35
		" .....		35
171	x*†.....	" .....	serpentine, pyroxene .....	149
	x.....	" .....	" .....	5, 43, 74, 149
		" .....	magnetite, garnet.....	5, 74
		" .....	" .....	5, 74, 149
		" .....	" .....	5, 43, 74
		" .....	" .....	5, 43, 74
		" .....	" .....	43, 181
	xx .....	" .....	" .....	43
		" .....	on pyroxene.....	139
172		in limestone.....	serpentine, amphibole etc....	5
		" .....	biotite.....	5, 43
		" .....		5
		" .....		5
		" .....		191
		" .....		5
		" .....		5
173	*†.....	in limestone.....		5
174	x.....			5, 43
175	xx.....	in crystalline limestone .....	mica.....	5, 43
	xx.....	" .....	pyroxene .....	5
	x.....	" .....	spinel .....	5, 43
	x.....	" .....	chondrodite....	5, 43
	x.....	" .....	pyroxene, mica.....	5, 43
		" .....	" .....	5, 43
176		" .....		5, 43
177	xx.....	in gneiss.....	wernerite, spinel.....	51, 43
	x.....	" .....	spinel .....	43
	xx.....	" .....	wernerite, pyroxene.....	43
	x.....	" .....	" .....	43

## ORANGE

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Tuxedo (continued)</b>		
	Greenwood furnace, Arden .....	wernerite.....	.....
		amphibole.....	.....
		ilmenite.....	.....
	<b>Warwick</b>		
178	1m. s.w. Amity.....	spinel.....	green, black, brown and red very large crystals.....
		chondrodite....	rounded grains and crystals.....
		corundum.....	white, blue and reddish crystals...
		tourmalin.....	yellow and cinnamon crystals....
		clinochlore.....	leuchtenbergite.....
		phlogopite.....	.....
		fluorite.....	.....
		amphibole.....	large and perfect crystals.....
		magnetite.....	in scattered grains.....
		ilmenite.....	interesting crystals.....
		garnet.....	grossularite.....
179	1m. s.e. Amity .....	spinel.....	large octahedral crystals.....
		corundum.....	bluish white.....
		amphibole.....	hornblende.....
180	Amity.....	spinel.....	grayish red, twinned octahedrons..
		warwickite.....	.....
		seybertite.....	clintonite.....
		talc.....	common and foliated varieties...
		ilmenite.....	fine crystals.....
		garnet.....	cinnamon brown crystallized and massive.....
		wernerite.....	milk white crystals, dendritic surfaces.....
		pyroxene.....	light brown crystals, leucaugite...
		" .....	augite and coccolite.....
		enstatite.....	bronzite.....

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
	x.....	in gneiss.....	pyroxene.....	43
	.....	".....	ilmenite.....	43
	.....	".....	amphibole.....	43
178	xx.....	in granular limestone and serpentine....	chondrodite, hematite.....	5, 43, 176
	x.....	".....	spinel, tourmalin.....	43
	x.....	".....	" rutile.....	5, 43
	x.....	in calcite.....	".....	5, 43, 74
	.....	".....	amphibole, phlogopite.....	43
	.....	".....	" fluorite.....	43
	.....	".....	spinel, tourmalin.....	43, 74
	x.....	".....	phlogopite, graphite.....	5, 43, 74, 176
	.....	".....	chondrodite.....	43
	x.....	".....	spinel.....	176, 74
	.....	".....	amphibole etc.....	74
179	x.....	in crystalline limestone.....	corundum.....	74, 176
	.....	".....	amphibole spinel.....	74, 176
	.....	".....	spinel, corundum.....	74, 176
180	xx.....	" and serpentine..	ilmenite.....	5, 43, 74, 176, 212
	.....	".....	".....	43, 178, 190
	x.....	".....	".....	5, 43, 74
	xx.....	".....	" seyberville.....	5, 43
	.....	".....	spinel.....	5 43, 85
	x.....	in crystalline limestone.....	pyroxene.....	43, 176
	x.....	".....	" titanite.....	5, 43, 74, 176
	xx.....	".....	calcite, seyberville.....	5, 41, 43, 119, 159
	.....	".....	wernerite, titanite.....	74, 176
	.....	".....	spinel, pyroxene.....	57, 176

## ORANGE

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Warwick</b> ( <i>continued</i> )		
	Amity ( <i>continued</i> ) . . . . .	amphibole . . . . .	pargasite, amianthus . . . . .
		vesuvianite . . . . .	grayish and yellowish brown crystals, xanthite . . . . .
		titanite . . . . .	in small crystals . . . . .
		zircon . . . . .	large brown crystals (rare) . . . . .
		orthoclase . . . . .	crystallized . . . . .
		tourmalin . . . . .	clove brown . . . . .
		rutile . . . . .	brown to pale red crystals . . . . .
		chondrodite . . . . .	pink . . . . .
181	2m. s.w. Amity . . . . .	apatite . . . . .	fine crystals, emerald and bluish green . . . . .
		rutile . . . . .	dark blue terminated prisms . . . . .
182	2m. s.e. Amity . . . . .	epidote . . . . .	rich grass-green crystals . . . . .
183	2m. w. Amity . . . . .	rutile . . . . .	black, gray and reddish brown crystals . . . . .
184	Edenville . . . . .	chondrodite . . . . .	blood-red, orange and buff . . . . .
		titanite . . . . .	light brown crystals . . . . .
		tourmalin . . . . .	gray, bluish, green and black . . . . .
		scorodite . . . . .	small crystals and druses . . . . .
		arsenopyrite . . . . .	crystals and massive . . . . .
		leucopyrite . . . . .	abundant . . . . .
		warwickite . . . . .	hair-brown grains . . . . .
		ytrocerite . . . . .	purple . . . . .
		sphalerite . . . . .	opaque, black . . . . .
		vesuvianite . . . . .	
		quartz . . . . .	hornstone . . . . .
185	1m. n. of Edenville . . . . .	orthoclase . . . . .	crystallized . . . . .
		fluorite . . . . .	
		amphibole . . . . .	tremolite and hornblende . . . . .
		vesuvianite . . . . .	
		tourmalin . . . . .	
		titanite . . . . .	
		spinel . . . . .	
		zircon . . . . .	red and white . . . . .
		orpiment . . . . .	slight traces . . . . .

[illegible]



NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Warwick (continued)</b>			
186	southern base of Mt Eve 2½ m. n. of Edenville.....	amphibole.....	edenite, dark hair-brown crystals.
		pyroxene.....	gray crystals.....
		wernerite.....	
		zircon.....	chocolate brown crystals.....
		orthoclase.....	
		spinel.....	
		fluorite.....	purple.....
187	1 m. n. w. Edenville.....	pyroxene.....	augite .....
		amphibole.....	dark green, gray or brown crystals
		muscovite .....	six sided and rhombic prisms.....
		rutile .....	
		chondrodite ..	
188	4 m. w. Edenville .....	ilmenite .....	
189	1 m. e. Edenville.....	rutile .....	
190	1 m. s. Edenville.....	amphibole.....	dark green, gray or brown crystals
191	Warwick.....	spinel.....	soft, pseudomorphous crystals....
		serpentine.....	sometimes in large pseudomor- phous crystals.....
		ilmenite.....	crystals.....
		pyroxene.....	coccolite.....
		amphibole.....	
		warwickite.....	
192	Rocky hill 3 m. s.e. Warwick .....	magnetite .....	
		marcasite .....	terminated crystals .....
		titanite.....	large grayish brown crystals.....
		zircon.....	brown.....
		rutile .....	square terminated prisms.....
		wernerite.....	
		orthoclase .....	interesting crystals.....
		tourmalin.....	
		seybertite .....	clintonite .....
193	2 m. e. Warwick.....	magnetite.....	
		marcasite.....	
		arsenopyrite....	
		pyrite.....	in cubes.....
		molybdenite....	in irregular plates.....

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
186	xx. . . .	in crystalline limestone . . . . .	wernerite, pyroxene . . . . .	5, 43, 176
	x . . . .	" . . . . .	" zircon . . . . .	5, 43, 176
	. . . . .	" . . . . .	pyroxene . . . . .	5, 43, 176
	x . . . .	" . . . . .	" wernerite . . . . .	5, 43, 176
	. . . . .	" . . . . .	. . . . .	5, 43
	. . . . .	" . . . . .	. . . . .	176
	. . . . .	" . . . . .	. . . . .	176
187	x . . . .	" . . . . .	amphibole . . . . .	5, 43
	x . . . .	" . . . . .	pyroxene mica . . . . .	5, 43, 74, 176
	. . . . .	" . . . . .	" . . . . .	5, 43, 176
	. . . . .	" . . . . .	" . . . . .	5, 43, 176
	. . . . .	" . . . . .	. . . . .	74, 141
188	. . . . .	gneiss limestone contact . . . . .	spinel chondrodite . . . . .	5, 43
189	. . . . .	in limestone boulders . . . . .	amphibole . . . . .	5, 43
190	. . . . .	" crystalline limestone . . . . .	titanite chondrodite . . . . .	5, 43
191	xx . . . .	" . . . . .	serpentine . . . . .	5, 43
	xx . . . .	" . . . . .	pyroxene spinel . . . . .	5, 43
	. . . . .	" . . . . .	spinel, chondrodite . . . . .	5, 43
	. . . . .	" . . . . .	amphibole, spinel . . . . .	5, 43
	. . . . .	" . . . . .	pyroxene, spinel . . . . .	5, 43
	. . . . .	" . . . . .	" . . . . .	178, 190, a
192	*† . . . .	in gneiss . . . . .	. . . . .	194
	. . . . .	" . . . . .	magnetite . . . . .	176
	. . . . .	" . . . . .	zircon etc. . . . .	5, 43
	. . . . .	" . . . . .	orthoclase, tourmalin . . . . .	43, 176
	. . . . .	" . . . . .	zircon . . . . .	176
	. . . . .	" . . . . .	" amphibole . . . . .	5, 43
	xx . . . .	" . . . . .	tourmalin zircon . . . . .	5, 43
	. . . . .	" . . . . .	orthoclase . . . . .	43
	x . . . .	" . . . . .	" . . . . .	43
193	*† . . . .	in limestone . . . . .	garnet . . . . .	74, 176
	. . . . .	" . . . . .	zircon . . . . .	5, 43
	. . . . .	" . . . . .	mica, pyrite . . . . .	43
	. . . . .	" . . . . .	marcasite . . . . .	5
	. . . . .	" . . . . .	rutile, zircon, pyrite . . . . .	5, 43

## ORANGE

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Warwick (continued)</b>		
	2 m. e. Warwick.....	rutile.....	octagonal prisms.....
		quartz.....	small ferruginous crystals.....
		garnet.....	.....
194	Sterling mines, Sterling lake.....	magnetite.....	granular.....
		amphibole.....	crystals.....
		pyroxene.....	'.....
		epidote.....	small crystals.....
		orthoclase.....	red and white.....
		tourmalin.....	.....
	<b>Woodbury</b>		
195	Queensbury forge 2½ m. s. w. Fort Montgomery.....	spinel.....	black and green.....
		sillimanite.....	monrolite, bucholzite.....
		garnet.....	colophanite.....
		rastolite.....	.....
		amphibole.....	.....
		ilmenite.....	good crystals.....
		pyrrhotite.....	.....
		pyrite.....	massive.....
196	Bradley mine n. Cedar pond.....	magnetite.....	crystals embedded in calcite.....
		pyrrhotite.....	.....
		apatite.....	crystals embedded in calcite.....
		pyroxene.....	granular and short green crystals..
		titanite.....	crystals embedded in calcite.....
197	Fall hill 3 m. e. Central Valley.....	wernerite.....	white and bluish.....
198	Twin lakes (Two ponds).....	pyroxene.....	gray to brown prismatic crystals..
		wernerite.....	large reddish white crystals.....
		chondrodite.....	granular, light yellow.....
		zircon.....	large crystals.....
		amphibole.....	green actinolite and hornblende..
		titanite.....	abundant in large crystals.....
		apatite.....	.....

## ORLEANS

The rocks of this county afford no recorded mineral

## OSWEGO

The rocks of this county have been successfully drilled

## OTSEGO

The rocks of this county afford no recorded mineral

**COUNTY** (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
	x.....	in limestone .....	zircon.....	5, 43
	.....	“ .....	“ .....	5, 43
	.....	“ .....	“ .....	74
194 *	.....	in gneiss.....	apatite.....	149, 194
	.....	“ .....	pyroxene.....	160
	.....	“ .....	epidote.....	160
	.....	“ .....	pyroxene.....	160
	.....	“ .....	magnetite, tourmalin .....	160
	.....	“ .....	quartz.....	160
195	x.....	“ .....	mica, garnet, magnetite....	5, 43
	.....	“ .....	“ .....	5, 43
	x.....	“ .....	mica, spinel etc.....	5, 43
	.....	“ .....	“ .....	43
	.....	in serpentine and white limestone.....	“ .....	43
	.....	“ .....	spinel, chondrodite, rutile...	5, 43
	x.....	“ .....	“ .....	43
	.....	“ .....	“ .....	5, 43
196 *	.....	in gneiss.....	calcite.....	160
	.....	“ .....	“ .....	160
	.....	vein in gneiss.....	calcite, augite.....	160
	.....	“ .....	apatite, titanite etc.....	160
	.....	“ .....	pyroxene, apatite.....	160
197	.....	in gneiss.....	lamellar pyroxene.....	5, 43
198	xx.....	in crystalline limestone.....	wernerite, zircon etc.....	5, 43
	xx.....	“ .....	pyroxene, titanite.....	5, 43
	x.....	“ .....	spinel.....	5, 43
	x.....	“ .....	wernerite, pyroxene.....	5, 43
	.....	“ .....	“ .....	5, 43
	.....	“ .....	“ .....	5, 43
	.....	“ .....	“ .....	5, 43

**COUNTY**

localities of sufficient importance to note in this list.

**COUNTY**

for natural gas; no notable mineral localities are recorded.

**COUNTY**

localities of sufficient importance to note in this list.

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Carmel</b>			
199	near Carmel, boulder in road.....	epidote.....	sharp, well defined crystals.....
200	2m. s. Carmel.....	".....	translucent crystals and massive..
201	Mahopac group of mines.....	magnetite.....	medium fine grained.....
<b>Kent</b>			
202	2m. n.e. Carmel.....	amphibole.....	actinolite.....
203	Brown's quarry 4m. n.w. Carmel.....	arsenopyrite.....	in good crystals.....
		amphibole.....	radiated anthophyllite.....
<b>Patterson</b>			
204	1m. w. Towners.....	pyroxene.....	grayish white crystals.....
		calcite.....	scalenohedral crystals.....
		amphibole.....	asbestos and tremolite.....
		dolomite.....	.....
		pyrite.....	massive.....
<b>Philipstown</b>			
205	Cold Spring.....	titanite.....	.....
		epidote.....	.....
		pyroxene.....	.....
206	Hustis quarry 4m. n.e. Cold Spring...	amphibole.....	tremolite, amianthus.....
		serpentine.....	many varieties.....
		titanite.....	.....
		pyroxene.....	diopsid, green coccolite.....
		wernerite.....	small white opaque crystals.....
		dolomite.....	semiopaline, conchoidal fracture...
		serpentine.....	.....
207	Cotton rock $3\frac{1}{2}$ m. s. of Garrisons (this locality has been obliterated by the N.Y.C.R.R. embankment)	amphibole.....	silky amianthus.....
		pyroxene.....	diallage and augite.....
		stilbite.....	crystals and fanlike groups.....
		laumontite.....	occurs sparingly.....
<b>Putnam Valley</b>			
208	Denny and Todd mines 6m. n.e. Peekskill	magnetite.....	.....
		chromite.....	.....
		calcite.....	small crystals on magnetite.....
209	Phillips' ore bed (this bed outcrops at intervals in the towns of Philips- town and Putnam Valley following a valley formerly known as Canopus hollow).....	magnetite.....	.....
		pyrite.....	massive.....
		amphibole.....	actinolite.....
		opal.....	hyalite in thin coatings.....



## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
199	x.....	in granite boulder.....		e
200		in gneiss.....	amphibole, garnet.....	5, 43
201	*†.....	".....		149, 194
202		in gneiss.....		5
203		".....	amphibole.....	43
		serpentine in gneiss.....	arsenopyrite, epidote.....	5, 43
204	xx.....	in dolomitic limestone.....		5, 43
	x.....	".....	asbestos.....	43
	x.....	".....	calcite.....	5, 43
		".....	".....	43
		".....		5, 43
205	†.....	in gneiss.....		5, 43
		".....		5, 43
		".....		5, 159
206	*†.....	in crystalline limestone.....	serpentine.....	5, 43, g
	x*†.....	".....		5, g
		".....		43, g
		".....	serpentine, apatite.....	5, 159
		".....	titanite, apatite, quartz.....	5, 43, g
	*†.....	".....		5, 43
207	†.....	".....	amphibole.....	5, 43
	†.....	".....	serpentine.....	5, 43
	†.....	".....	".....	5, 43
	†.....	".....		5, 43
	†.....	".....		5, 43
208	*†.....	gneiss limestone contact.....	chromite.....	43, 149, 194
		".....		43
		".....	magnetite chromite.....	5, 43
209	*†.....	in gneiss.....		5, 43, 194
		".....	magnetite, amphibole.....	5, 43
		".....	".....	5, 43
		on ".....		43

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Southeast</b>		
210	Tilly Foster mine 2m. n.w. Brewster...	chondrodite...	deep red crystals, highly modified
		clinohumite...	"
		humite.....	"
		magnetite.....	dodecahedral crystals and massive
		dolomite.....	.....
		serpentine.....	light and dark green, mottled with red.....
		".....	pseudomorphs in many forms.....
		brucite.....	crystallized and pseudomorph after dolomite.....
		enstatite.....	.....
		clinochlore.....	in large crystals.....
		prochlorite.....	.....
		biotite.....	.....
		amphibole.....	actinolite, light green fibrous.....
		pyrrhotite.....	.....
		fluorite.....	colorless to purple crystals.....
		albite.....	.....
		epidote.....	small crystals.....
		titanite.....	transparent greenish crystals often twinned.....
		hydrotalcite...	white fibrous.....
		calcite.....	scalenohedral and nail head types.
		garnet.....	oil-green dodecahedral crystals....
		apatite.....	.....
		datolite.....	.....
		stilbite.....	.....
		prehnite.....	.....
		apophyllite...	.....
		tourmalin.....	.....
		molybdenite...	.....
		pyroxene.....	dark green coccolite.....

## QUEENS

The rocks of this county are deeply covered with drift and artificially

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
210	xx.....	in gneiss .....	magnetite, clinocllore.....	1, 16, 37, 38, 43, 141, 170
	x.....	" .....	" .....	43, 141
	x.....	" .....	" .....	43, 141
	x*†.....	" .....	serpentine, clinocllore.....	43, 149, 170, 194
	x.....	" .....	magnetite, chondrodite.....	43, 170
	x.....	" .....	" .....	16, 43, 170
	x.....	" .....	" .....	42, 43
	x.....	" .....	prochlorite.....	42, 43, 170
	x.....	" .....	" .....	16, 43, 170
	xx.....	" .....	chondrodite.....	16, 43, 170
		" .....	clinocllore .....	16, 43, 170
		" .....		16, 43
		" .....		5, 16, 43
		" .....		43, 170
		" .....	calcite.....	43, 170
		" .....		43
		" .....	pyroxene, amphibole.....	43, 170
	xx.....	" .....	magnetite, apatite .....	43
	x .....	" .....	"   prochlorite.....	w
		" .....	brucite, dolomite.....	170
		" .....		43, 170
	x .....	" .....		43
		" .....		43
		" .....		43
		" .....		43
	x .....	" .....		43
		" .....		43, w
		" .....	magnetite serpentine .....	w
		" .....	hornblende, epidote.....	w

## COUNTY

made land; deep excavations may however develop mineral localities.

## RENSSELAER

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Brunswick</b>			
211	Lansingburg.....	quartz.....	large doubly terminated crystals..
212	South Troy.....	" .....	" .....
<b>RICHMOND COUNTY</b>			
213	Tompkinsville <sup>a</sup> and southward to New Dorp.....	serpentine <sup>b</sup> .... " .....	red and green (slickensides)..... asbestos and amianthus.....
		talc.....	greenish white, foliated.....
		dolomite.....	.....
		brucite.....	white, foliated.....
		magnesite.....	massive in veins and cavities....
		aragonite.....	minute needlelike crystals.....
		chromite.....	minute octahedrons.....
		pyrolusite.....	thin dendrites.....
		deweylite.....	.....
		anhydrite.....	massive.....
214	iron mines w. of Concord and w. of Garretsons.....	limonite.....	oolitic and spongy.....
		quartz.....	green quartz in small crystals.....
215	Rossville on shore of Arthur kill.....	lignite.....	.....
		pyrite.....	crystals and nodules.....
<b>ROCKLAND</b>			
<b>Haverstraw</b>			
216	Ladentown 1½ m. n.w. of Pomona.....	cuprite.....	.....
		malachite.....	.....
		zircon.....	brilliant brown to black crystals...
217	Haverstraw.....	amphibole.....	hornblende in small crystals.....
<b>Orangetown</b>			
218	Piermont, excavations for the Erie R. R.....	datolite.....	.....
		stilbite.....	in minute crystals.....
		apophyllite.....	.....
		pectolite.....	.....
		prehnite.....	.....

<sup>a</sup>A fresh exposure occurs in Westervelt av. between 1st and 2d av.

<sup>b</sup>Serpentine also occurs in frequent outcrops along the ridge extending southwest from

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
211	x			e
212				e

## AND BOROUGH

213		serpentine rock	talc, brucite etc.	5, 43, 94
x		"	"	5,43,94,144
x		"	serpentine, magnesite	5, 43
x		"	"	5, 43
		"	"	5, 43
		"	serpentine, brucite	5, 43
		"	"	43
		"	serpentine	w
		"	on talc	w
		"	serpentine, brucite	w
		"	talc, brucite	w
214	*†	serpentine	yellow clay and quartz	18, 23, 67 149
		"	limonite	67
215		in clay	pyrite	5, 43
		"	lignite	5, 43

## COUNTY

216		in red Triassic shale	malachite	5, 43
		"	cuprite	43
		in granite boulder		5, 43
217		" shale		5
218		in diabase	apophyllite, stilbite	43
		"	datolite, zeolites	5, 43
		"	"	5, 43
		"	"	5, 43
		"	calcite	5, 43



## ROCKLAND

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Orangetown (continued)</b>		
	Piermont, excavations for the Erie R. R. (continued).....	thomsonite.....	
		chabazite.....	
		calcite.....	in minute crystals.....
		tourmalin.....	
	<b>Stony Point</b>		
219	Dunderberg mine n. side Dunderb'g mt	magnetite.....	lean ore.....
220	Stony Point, north shore.....	zoisite.....	
		pyroxene.....	green augite.....
		amphibole.....	hornblende, light green.....
		titanite.....	
		pyrite.....	small crystals.....
		chrysolite.....	
		garnet.....	
		staurolite.....	minute crystals.....
221	Tomkins Cove.....	calcite.....	white and yellowish crystals.....
		barite.....	minute tabular crystals.....
222	2½ m. n.w. Grassy Point.....	amphibole.....	radiated and interlaced actinolite..
		orthoclase.....	minute crystals.....
		epidote.....	small granular masses.....
	<b>Canton</b>		
223	Pyrite mines 2m. s. Canton .....	pyrite.....	massive .....
		chalcopryite .....	
		hematite .....	
		calcite.....	
		serpentine .....	
		talc.....	rensselaerite.....
		tourmalin.....	brown.....
		titanite .....	
		pyroxene.....	
	<b>De Kalb</b>		
224	3m. s. DeKalb Junction.....	" .....	diopsid, transparent crystals .....
		datolite .....	rare.....
225	5m. s.w. DeKalb Junc. (Mitchel farm).	pyroxene.....	diopsid.....
		calcite.....	crystallized and massive.....
		quartz .....	

## ST LA WRENCE

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
		in diabase.....	zeolites, calcite.....	5, 43
		“ .....	“ .....	5, 43
		“ .....	“ .....	5, 43
		“ .....	.....	a
219	*†.....	“ gneiss.....	pyrite.....	194
220	.....	“ diorite limestone contact.....	amphibole, pyroxene.....	5, 45, 228
		“ .....	“ .....	45, 96, 159, 228
		“ .....	pyroxene.....	5, 45, 96, 228
		“ .....	amphibole wernerite.....	159, 228
		on peridotite.....	calcite .....	e
		in “ .....	.....	96, 44
		“ diorite.....	.....	44
		“ mica schist.....	.....	44
221	x.....	“ Stockbridge limestone.....	.....	5, 43
		“ .....	calcite .....	5
222	.....	in limestone.....	epidote etc.....	5
		“ .....	amphibole, epidote.....	5
		“ .....	orthoclase “ .....	5

## COUNTY

223	x*.....	gneiss limestone contact.....	chalcopyrite .....	43
		“ .....	pyrite.....	43
		“ .....	.....	43
	x.....	“ .....	.....	43
		in granular limestone.....	.....	43
		“ .....	.....	43
		“ .....	.....	43
		“ .....	.....	43
		“ .....	.....	43
224	xx.....	gneiss limestone contact .....	pockets in clay .....	5, 43, 151
		“ .....	pyroxene.....	43
225	xx.....	in clay pockets in talc .....	calcite.....	5, 43, 151, w
		“ .....	pyroxene quartz.....	w
		“ .....	.....	w

## ST LAWRENCE

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>De Kalb (continued)</b>			
226	3m. w. De Kalb Junction.....	talc.....	massive fibrous.....
		tourmalin.....	colorless glassy crystals.....
		amphibole.....	dark green hornblende.....
		phlogopite.....	.....
		serpentine.....	.....
227	near Osborn's lake.....	fluorite.....	large cubic crystals.....
		tourmalin.....	.....
		calcite.....	crystals.....
		barite.....	.....
		amphibole.....	white and gray tremolite.....
		phlogopite.....	.....
228	Richville.....	barite.....	long tabular crystals.....
<b>Edwards</b>			
229	Talcville, talc mines.....	talc.....	massive, fibrous.....
		amphibole.....	hexagonite schist of interlaced crystals.....
		pyrolusite.....	small but perfect dendrites.....
		enstatite.....	rather rare.....
230	Anthony mine 2m. s. Edwards.....	amphibole.....	actinolite, tremolite.....
		wernerite.....	.....
		apatite.....	.....
		phlogopite.....	light green and sea-green plates...
		hematite.....	.....
		magnetite.....	.....
		serpentine.....	.....
<b>Fine</b>			
231	Scott farm.....	oligoclase.....	crystals, moonstone.....
		pyroxene.....	brilliant crystals.....
		zircon.....	.....
		titanite.....	.....
		fluorite.....	.....
		calcite.....	.....
		pyrite.....	.....
232	Benson mines.....	magnetite.....	.....
233	Clifton mines.....	".....	.....

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
226	*	in limestone	amphibole	w
	xx	"	" pyroxene	43
	x	"	pyroxene	43,
	x	"	" amphibole	43
		"		43
227	x	in gneiss	calcite	43
	x	"	" fluorite	43
		"	fluorite	43
		"	calcite, fluorite	43
		"	phlogopite	5, 43
		"	amphibole etc.	43
228	xx	in limestone		24, 43
229	*	in gneiss		136, 137, 171, 172, 200, 202, 203, 205
	xx	in gneiss	amphibole	43, 205
	x	on talc		w
		in limestone	amphibole	43, 205
230	xx	gneiss limestone contact	apatite, wernerite	43
		"	" amphibole etc.	43
		"	"	43
	xx	"	wernerite, apatite	c
		"		43
		"		43
		"		5, 43
231	x	granite limestone contact	pyroxene	43, c
	x	"	oligoclase	43, c
	x	"	titanite	43
		"	zircon, apatite	43
	x	in limestone	calcite, pyrite	43
	x	"	fluorite	43
		"	" calcite	43
232	*†	in gneiss		149, 194
233	*†	"		194

## ST LAWRENCE

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Fowler</b>			
234	Fullerville iron works.....	hematite.....	
		quartz.....	pyramidal crystals.....
		barite.....	tabular crystals.....
235	Belmont farm.....	sphalerite.....	
		galena.....	
<b>Gouverneur</b>			
236	4½ m. n. of Gouverneur.....	tourmalin.....	brown crystals highly modified....
		amphibole.....	short green crystals, also tremolite
		pyroxene.....	
		apatite.....	large crystals.....
		titanite.....	brilliant black crystals.....
		phlogopite.....	large sheets dark brown.....
		pyrite.....	crystallized.....
237	1 m. s.w. of Gouver. (marble quarries) ..	tourmalin.....	plentiful brown crystals.....
		amphibole.....	tremolite.....
		wernerite.....	
		serpentine.....	pseudomorphs and verd antique...
		fluorite.....	etched and twinned cubes.....
238	1½ m. n.e. of Gouverneur.....	garnet.....	almandite.....
239	1 m. s. of Gouverneur.....	orthoclase.....	large crystals.....
		pyroxene.....	gray and dark green.....
		apatite.....	
		vesuvianite.....	
		titanite.....	
		talc.....	rensselaerite.....
		serpentine.....	
		fluorite.....	
240	Elmdale (Smith Mills), 4½ m. w. Gouverneur.....	amphibole.....	massive fibrous tremolite.....
		vesuvianite.....	
		biotite.....	
		graphite.....	
		barite.....	crystalline.....
<b>Hammond</b>			
241	near De Long's mills.....	apatite.....	large crystals.....
		zircon.....	large crystals containing nucleus ..
		orthoclase.....	luxoclase, white to bluish crystals ..



## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
234	.....	limestone gneiss contact.....	quartz.....	43
	x.....	“.....	hematite.....	5, 43
	.....	“.....	“.....	43
235	.....	vein traversing serpentine.....	galena.....	5, 43
	.....	“.....	sphalerite.....	43
236	xx.....	in Grenville limestone.....	amphibole, apatite.....	5, 43
	xx.....	“.....	apatite, tourmalin.....	5, 43
	x.....	“.....	“.....	5, 43
	x.....	“.....	wernerite, titanite.....	5, 43, 80
	x.....	“.....	tourmalin, pyroxene.....	5, 43
	x.....	“.....	“.....	c
	.....	“.....	tourmalin, calcite.....	
237	xx.....	“.....	calcite.....	5, 43, 25
	xx.....	“.....	“.....	5, 43
	xx.....	“.....	“.....	5, 43
	xx.....	“.....	calcite.....	5, 43
	x.....	“.....	“.....	43, c
238	*.....	vein in gneiss.....	quartz.....	10
239	.....	limestone granite contact.....	“ pyroxene.....	5, 43
	x.....	“.....	amphibole, tourmalin.....	5, 43, 159
	.....	“.....	pyroxene, titanite.....	43
	.....	“.....	“.....	43, 79
	.....	“.....	apatite, pyroxene.....	43
	x.....	in limestone.....	serpentine.....	43
	.....	“.....	talc.....	5, 43
	.....	“.....	“.....	43
240	xx.....	gneiss limestone contact.....	biotite, graphite.....	43, 79
	.....	“.....	“.....	43
	.....	“.....	“.....	43
	.....	“.....	“.....	43
	.....	in limestone.....	fluorite, calcite.....	79
241	xx.....	in crystalline limestone.....	wernerite, titanite.....	5, 43
	xx.....	“.....	apatite.....	5, 43
	x.....	“.....	“ pyroxene.....	5, 43

## ST LAWRENCE

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Hammond</b> ( <i>continued</i> )			
	near De Long's mills ( <i>continued</i> ).....	amphibole.....	pargasite and tremolite.....
		phlogopite.....	.....
		pyroxene.....	grayish white and green.....
		barite.....	snow white crested variety.....
		pyrite.....	crystals.....
		fluorite.....	purple.....
<b>Hermon</b>			
242	Lowden mine 1m. n.e. of Hermon:....	hematite.....	.....
		quartz.....	pyramidal.....
		amphibole.....	pargasite.....
		pyroxene.....	.....
		tourmalin.....	.....
243	Dodge ore bed.....	siderite.....	bent crystals.....
		serpentine.....	.....
		limonite.....	bog iron ore.....
<b>Macomb</b>			
244	1½m. n. Elmdale (Smiths Mills).....	fluorite.....	masses of large green cubes.....
		calcite.....	Rossie type, small crystals.....
		pyrite.....	concretionary aggregates of crystals.....
245	St Lawrence Min. Co.'s mines, 1m. e. Macomb.....	galena.....	massive.....
		sphalerite.....	.....
246	1m. n.e. Macomb.....	tourmalin.....	dark brown and black.....
		pyroxene.....	small glassy crystals.....
		amphibole.....	.....
		albite.....	peristerite.....
		graphite.....	.....
		phlogopite.....	.....
		wernerite.....	.....
		apatite.....	.....
247	Ingram farm.....	tourmalin.....	dark brown and black.....
		graphite.....	.....
248	Pope's Mills.....	phlogopite.....	.....
		barite.....	.....

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
x		in crystalline limestone	apatite, pyroxene	43
x		"	"	43
		"	zircon, orthoclase	5, 159
		"	pyrite	43
		"		43
		"		43
242 *		in gneiss		194
x		"	hematite	5, 43
		"		43
		"		43
		"		43
243		in limestone		5, 43
		"		5, 43
		"		43
244 xx†		in crystalline limestone	calcite, pyrite	43, 116
		"	fluorite "	43, w
		in crystalline limestone	fluorite, calcite	w
245 *†		veins in limestone	calcite	43, w
*†		"	galena, calcite	43, w
246 xx		in crystalline limestone	pyroxene, amphibole	43
x		"	tourmalin "	159, c
		"	albite, pyroxene	43
x		"	graphite "	43
x		"	pyroxene, wernerite	43
x		"		43
		"		43
		"		43
247 xx		gneiss limestone contact	graphite	43
		"	orthoclase	43
248 x		"		43
		"		43

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Morristown</b>			
249	Mineral point, 2m. n.e. Hammond.....	galena.....	.....
		sphalerite.....	.....
		fluorite.....	.....
		calcite.....	large clear crystals.....
<b>Oswegatchie</b>			
250	Ogdensburg.....	labradorite.....	.....
<b>Pierrepont</b>			
251	1 m.e. West Pierrepont .....	tourmalin.....	brilliant black crystals.....
		phlogopite.....	.....
		pyroxene.....	transparent, tabular crystals.....
252	farms of Wells and Vaughn.....	amphibole.....	.....
		pyroxene.....	.....
		oligoclase.....	.....
253	Pierrepont.....	wernerite.....	large gray and white crystals.....
		albite.....	peristerite.....
		pyroxene.....	.....
<b>Pitcairn</b>			
254	1 m. n.e. East Pitcairn .....	zircon.....	fine crystals.....
		microcline.....	white rounded crystals.....
		pyroxene.....	brilliant green crystals.....
		titanite.....	pale red and brown crystals.....
		phlogopite.....	.....
		gypsum.....	satin spar.....
255	2 m. e. East Pitcairn.....	pyroxene.....	large crystals.....
		titanite.....	large pale red and brown crystals..
		fluorite.....	.....
		zircon.....	large, greenish, prismatic crystals.
		calcite.....	.....
<b>Potsdam</b>			
256	boulder in road near Crary's Mills. ....	orthoclase.....	large crystals .....
		tourmalin.....	black " .....
		biotite.....	.....
		amphibole.....	.....

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
249	.....	vein in gneiss.....	sphalerite, calcite.....	5, 43
	.....	“ .....	galena .....	5, 43
	.....	“ .....	“ .....	5, 43
	.....	“ .....	“ sphalerite .....	5
250	.....	in granite boulder.....	.....	43
251	xx .....	limestone gneiss contact.....	quartz .....	43
	x .....	“ .....	“ .....	43
	.....	“ .....	“ amphibole.....	43, 159
252	.....	in gneiss.....	pyroxene, oligoclase.....	43
	.....	“ .....	.....	43
	.....	“ .....	.....	43
253	x .....	limestone gneiss contact.....	pyroxene.....	43, c
	.....	“ .....	“ wernerite.....	43
	.....	“ .....	wernerite.....	43
254	xx .....	limestone granite contact.....	microcline .....	43
	x .....	“ .....	pyroxene .....	43
	x .....	“ .....	microcline, zircon.....	43
	.....	“ .....	“ pyroxene.....	43, 223
	.....	“ .....	.....	43
	.....	“ .....	.....	43
255	x .....	granite vein.....	titanite, zircon .....	43
	x .....	“ .....	zircon.....	43, 223
	x .....	“ .....	calcite.....	43
	x .....	“ .....	titanite, pyroxene.....	43
	.....	“ .....	fluorite.....	43
256	x .....	granite boulder.....	quartz, pyroxene.....	5, 43
	x .....	“ .....	.....	43
	x .....	“ .....	.....	43
	.....	“ .....	.....	43



## ST LAWRENCE

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Rossie</b>		
257	Rossie lead mines 2m. s. Rossie.....	galena.....	crystallized and massive.....
		pyrite.....	crystals often highly modified.....
		calcite.....	large twinned crystals.....
		celestite.....	delicate blue.....
		chalcopyrite....	crystals.....
		hematite.....	.....
		cerussite .....	rare.....
		anglesite.....	.....
		fluorite.....	rarely in fine octahedral crystals..
258	iron mines, Somerville.....	hematite.....	laminated structure.....
		barite.....	in flattened crystals.....
		pyrite.....	crystals.....
		quartz.....	large implanted crystals.....
259	Somerville.....	spinel.....	rose and reddish brown.....
		hydrotalcite....	houghite.....
		dolomite.....	.....
		aragonite.....	flos ferri.....
		phlogopite.....	in large plates.....
		wernerite .....	.....
260	1/2 m. n.w. Somerville.....	chondrodite....	yellow grains.....
		spinel.....	rose and reddish brown.....
		hydrotalcite....	houghite.....
261	3m. n. Oxbow (Yellow lake).....	chondrodite....	yellow grains.....
		orthoclase.....	.....
		amphibole.....	bright green pargasite.....
		apatite.....	small, transparent, green crystals.
		pyroxene.....	.....
		titanite.....	.....
		zircon.....	.....
		wernerite.....	large, light yellowish green crystals
		phlogopite.....	in large sheets.....
		gahnite.....	automolite.....
		fluorite.....	.....
		dolomite.....	.....
		graphite.....	.....
262	near Grasse lake.....	pyroxene.....	hemihedral crystals.....
		wernerite.....	greenish.....

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
257	x*†	vein in limestone	calcite, pyrite	5, 43, 211
	xx†	"	galena, calcite	5, 9, 43
	xx†	"	" sphalerite	5, 9, 43
	x†	"	calcite	43
		"	galena, sphalerite	5, 43
		"		43
		"	galena	43
		"		5, 43
		"	calcite	5, 43
258	*	synclinal fold of Potsdam sandstone		194
	x	in limestone vein	quartz dolomite	43
	x	" green shale	"	5, 43
	x			5, 43
259		in limestone and serpentine	chondrodite	5, 43
		"	serpentine	43, 93, 180 <sup>a</sup>
		"	"	43
			dolomite etc	80
	x			43
				5, 43
260	x	in limestone	spinel	5, 43
		"	chondrodite	43
	x	"	spinel	93, 180 <sup>a</sup>
261		limestone gneiss contact		43
	xx	"		43
	xx	"	pyroxene, orthoclase	5, 43, w <sup>a</sup>
	x	"	"	43, w
	x	"	wernerite, orthoclase	43
		"	"	43
		"		43
	xx	"	quartz, titanite etc	43, w
	x	"	"	43, w <sup>a</sup>
		in limestone	dolomite	43
		"	"	43
		"		43
		"		43
262	xx	limestone gneiss contact	wernerite, titanite	43, 159, 229 <sup>a</sup>
	x	"	pyroxene, graphite etc	43

## ST LAWRENCE

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Rossie (continued)</b>		
	near Grasse lake (continued).....	graphite.....	fine crystals.....
		orthoclase.....	luxoclase.....
		titanite.....	pale red and brown crystals.....
	Webster farm.....	apatite.....	large crystals.....
	".....	zircon.....	.....
		amphibole.....	tremolite in short crystals.....
263	2m. n. Rossie.....	wernerite.....	greenish.....
		pyroxene.....	large green crystals.....
		titanite.....	brown crystals.....
		tourmalin.....	.....
		phlogopite.....	.....
	<b>Russell</b>		
264	Buskurk farm, 1m. n.e. Russell (?)...	danburite.....	abundant fine crystals.....
		datolite.....	rare.....
		wernerite.....	.....
		pyroxene.....	small green crystals.....
		tourmalin.....	black.....
		amphibole.....	.....
		phlogopite.....	.....
		albite.....	.....
		quartz.....	massive and crystallized.....
		calcite.....	.....
265	Moore farm e. Russell.....	pyroxene.....	short, greenish black crystals.....
		amphibole.....	fine, white cryst's doubly termin'ed
		wernerite.....	long white prismatic crystals.....
		phlogopite.....	.....
266	1½m. n.w. North Russell.....	pyroxene.....	fine grayish green crystals.....
		phlogopite.....	large sheets.....
		apatite.....	crystals and massive.....
		calcite.....	pinkish massive.....
		molybdenite...	disseminated.....
		titanite.....	black crystals.....
		labradorite...	grayish brown massive.....

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
263	xx	limestone gneiss contact	pyroxene, wernerite	5, 43
	xx	"	"	5, 43
	x.	"	"	5, 43
		"	orthoclase	w
		"	titanite etc.	w
		"		43
	x.	"	pyroxene	43
	x.	"	orthoclase, apatite	43, 159
	x.	"	"	5, 43
	x.	"	"	43
264	xx	cavities and seams in gneiss	pyroxene	22, 43, 219
		"	"	43
		gneiss limestone contact	" amphibole	43
		"	wernerite, danburite	43
		"	quartz	43
		"	pyroxene	43
		"	" wernerite	43
		"	" quartz	43
		"	danburite	43
		"		43
265	xx	in gneiss	wernerite, amphibole	43, 159
	xx	"	" pyroxene	43
	x.	"	pyroxene	43, c
		"	"	43
266	xx	gneiss limestone contact	calcite, titanite	w
	xx	"	pyrite inclusions	w
	x.	"	calcite	w
		"	apatite, pyroxene etc.	w
		"	calcite	w
	x.	"	pyroxene, labradorite	w
		"	" titanite	w

## SARATOGA

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Greenfield</b>			
267	1m. n.w. Highrock spring Saratoga...	chrysoberyl....	pale yellowish green crystals .....
	in Mt McGregor ridge.....	garnet.....	pink grossularite .....
		tourmalin.....	black crystals .....
		muscovite .....	reddish brown crystals.....
		orthoclase .....	transparent adularia .....
		apatite.....	reddish brown crystals.....
		graphite .....	.....

## SCHENECTADY

The rocks of this county afford no recorded mineral

## SCHOHARIE

<b>Carlisle</b>			
268	2m. w. Central Bridge .....	calcite.....	crystallized and fibrous.....
		barite.....	fibrous .....
<b>Esperance</b>			
269	Ball's cave 4m. n. of Schoharie .....	calcite .....	crystals and stalactites .....
<b>Middleburg</b>			
270	4m. w. Schoharie on b'k small stream..	" .....	geodes lined with crystals.....
271	1½m. e. of Middleburg.....	" .....	obtuse rhombohedrons.....
<b>Schoharie</b>			
272	Schoharie e. of courthouse.....	strontianite....	columnar and granular masses ...
		celestite.....	fibrous, blue .....
		barite.....	" calcareous.....
273	2m. n.e. Schoharie.....	strontianite....	crystals in geodes.....
		barite.....	massive .....
		calcite.....	" .....
274	3m. n.e. Schoharie, near Foxes creek ..	aragonite.....	radiating crystals .....
275	1m. w. of Schoharie .....	pyrite.....	single and twinned crystals.....
		barite .....	fibrous .....
276	Howes Cave .....	calcite.....	crystals and stalactites .....
		aragonite.....	slender radiating crystals .....
		pyrite.....	nodular aggregates .....
<b>Sharon</b>			
277	Sharon Springs .....	calcite .....	calcareous tufa.....



## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
267	xx	in granite, traversing gneiss	quartz, tourmalin, garnet	5, 43, 210
	xx	"	" " mica	5, 43, 210
	xx	"	" garnet etc.	5, 43, 210
	x	"	chrysoberyl	5, 43, 210
	x	"	" tourmalin	5, 43, 210
		"	graphite	5, 43
			apatite	43

## COUNTY

localities of sufficient importance to note in this list

## COUNTY

268		in Helderberg limestone	barite	43
		"	calcite	43
269		in hydraulic limestone		5, 43
270		in limestone		5
271		" veins in limestone		5
272	xx	thin veins in hydraulic limestone	barite, calcite	5, 43, 63, 177
		"	strontianite calcite	5, 43, 63
		"		43, 63
273		in hydraulic limestone	barite, calcite	43, 63, 177
		"	strontianite calcite	43, 63
		"	pyrite	43, 63
274	x	"		63
275	xx	in blue slate		5, 43, 63
		vein in blue slate		63
276	x	in hydraulic limestone		5, 43
		"	calcite	h
		in shale		w
277		in limestone near springs		5

**SCHUYLER**

The rocks of this county afford no recorded mineral

**SENECA**

The rocks of this county afford no recorded mineral

**STEUBEN**

The rocks of this county afford no recorded mineral

**SUFFOLK**

The surface rocks of this county consist of glacial drift and afford

**SULLIVAN**

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Mamakating</b>		
278	Wurtzboro, lead mine.....	galena.....	mainly massive.....
		sphalerite.....	.....
		chalcopyrite....	.....
		pyrite.....	.....

**TIOGA**

The rocks of this county afford no recorded mineral

**TOMPKINS**

The rocks of this county afford no recorded mineral

**ULSTER**

	<b>Kingston</b>		
279	Rondout, cement mines.....	calcite.....	flat rhombohedrons, pyrite inclusions.....
		quartz.....	crystals showing phantom of smoky quartz.....
		pyrite.....	cubic.....
		marcasite.....	small crystals.....
	<b>Marbletown</b>		
280	High Falls.....	pyrite.....	pyritohedral crystals.....
	<b>Wawarsing</b>		
281	Ellenville, lead mine.....	galena.....	crystals rare.....
		chalcopyrite....	" well modified.....
		quartz.....	in groups and isolated crystals....
		sphalerite.....	massive black.....
		brookite.....	small, brilliant crystals.....
		pyrite.....	.....

**COUNTY**

localities of sufficient importance to note in this list.

**COUNTY**

localities of sufficient importance to note in this list.

**COUNTY**

localities of sufficient importance to note in this list.

**COUNTY**

no mineral localities of sufficient importance to note in this list.

**COUNTY**

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
278	†	in quartzite.....	sphalerite, chalcopyrite...	5, 43
		" .....	galena.....	5, 43
		" .....	" sphalerite.....	5, 43
		" .....	" " .....	5, 43

**COUNTY**

localities of sufficient importance to note in this list.

**COUNTY**

localities of sufficient importance to note in this list.

**COUNTY**

279	x	in Helderberg limestone.....	quartz.....	<i>h, p</i>
	xx	" .....	calcite.....	<i>p</i>
		" .....	" .....	<i>p</i>
	x	" .....	" .....	<i>h, w</i>
280		in Helderberg limestone.....		5
281	*	vein in quartzite.....	chalcopyrite, sphalerite....	5, 43
	xx	" .....	quartz " .....	5, 43
	xx	" .....	chalcopyrite.....	5, 43
		" .....	galena, chalcopyrite.....	5, 43
	x	" .....	quartz.....	43
		" .....	chalcopyrite.....	43

## WARREN

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Caldwell</b>			
282	Diamond island, Lake George .....	quartz.....	similar to Herkimer county.....
		calcite.....	white to yellow nail head crystals..
		dolomite.....	.....
<b>Chester</b>			
283	e. Loon lake.....	pyrite.....	crystallized.....
		chalcopyrite...	imperfect crystals.....
		rutile.....	.....
		tourmalin.....	.....
<b>Hague</b>			
284	Sabbath Day Point.....	epidote.....	common massive.....
		wernerite.....	.....
		titanite.....	.....
285	Graphite 4m. w. Hague.....	graphite.....	leafy masses.....
		apatite.....	small crystals.....
		garnet.....	large red crystals.....
<b>Johnsburg</b>			
286	Moore's mine, Gore mountain.....	garnet.....	massive.....
		pyroxene.....	coccolite.....
287	North River Garnet Co.'s m., Oven mt.	garnet.....	massive.....
		pyroxene.....	coccolite.....
<b>Queensbury</b>			
288	Glens Falls.....	calcite.....	crystals of lenticular form.....
		dolomite.....	well defined crystals.....
<b>Thurman</b>			
289	Thurman.....	fluorite.....	.....
		zircon.....	large and interesting crystals.....
		graphite.....	irregular shaped masses.....
		serpentine.....	yellowish green.....
		pyrite.....	fine crystals.....
		garnet.....	almondite.....
<b>Warrensburg</b>			
290	Warrensburg iron mine.....	magnetite.....	.....

## WASHINGTON

<b>Fort Ann</b>			
291	1m. n. Fort Ann.....	graphite.....	.....
		pyroxene.....	.....
		quartz.....	.....
292	Shelving Rock.....	serpentine.....	yellowish green, translucent.....

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
282	x.....	Beekmantown limestone.....	calcite.....	5, 43
	x.....	“.....	quartz.....	43
	.....	“.....	“.....	5
283	x.....	crystalline limestone.....	tourmalin, rutile.....	5, 43
	.....	“.....	“.....	43
	.....	“.....	.....	5, 43
	.....	“.....	.....	5, 43
284	.....	in gneiss.....	.....	5
	.....	“.....	titanite.....	<i>f</i>
	.....	“.....	wernerite.....	<i>f</i>
285	*.....	quartzite and limestone.....	quartz.....	111
	.....	“.....	zircon.....	111
	.....	in gneiss.....	sillimanite.....	111
286	*.....	in hornblende schist.....	pyroxene.....	112, <i>e</i>
	.....	“.....	garnet.....	<i>w</i>
287	*.....	“.....	pyroxene.....	112, <i>e</i>
	.....	“.....	garnet.....	<i>w</i>
288	.....	in Trenton limestone.....	dolomite.....	5
	.....	“.....	calcite.....	5, 43
289	xx.....	crystalline limestone.....	pyrite etc.....	5, 43
	xx.....	in quartz vein.....	graphite.....	5, 9, 43
	x.....	“.....	zircon, garnet.....	5
	x.....	crystalline limestone.....	.....	5, 43, 132
	x.....	“.....	.....	5, 43
	.....	in quartz vein.....	.....	<i>e</i>
290	*†.....	.....	.....	194

## COUNTY

291	x.....	gneiss limestone contact.....	pyroxene, quartz.....	5, 43
	.....	“.....	quartz.....	5
	.....	“.....	graphite.....	5
292	x.....	crystalline limestone.....	.....	5

## WASHINGTON

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Granville</b>			
293		pyroxene.....	lamellar.....
		orthoclase.....	massive.....
		epidote.....	
294	Middle Granville.....	pyrolusite.....	dendrites.....
<b>Putnam</b>			
295	Anthony's Nose.....	hematite.....	mammillary, botryoidal.....

## WAYNE

<b>Wolcott</b>			
296	Wolcott mine.....	hematite.....	fossil ore.....
		barite.....	pinkish crystals, highly modified..
297	Ontario mines.....	hematite.....	oolitic ore.....

## WESTCHESTER

<b>Cortlandt</b>			
298	Anthony's nose 4m. n.w. Peekskill on northern side of mountain.....	pyrrhotite.....	massive.....
		chalcopyrite....	" .....
		magnetite.....	sparingly disseminated.....
		pyroxene.....	
		amphibole.....	
		apatite.....	small green crystals.....
		calcite.....	tabular crystals coated with quartz
299	Crugers.....	pyroxene.....	white.....
		amphibole.....	
		staurolite.....	minute crystals.....
		cyanite.....	
		sillimanite.....	fibrolite.....
300	emery mines between Crugers and Peekskill.....	corundum.....	emery, intimately mixed with magnetite .....
		magnetite.....	intimately mixed with emery.....
		spinel.....	hercynite.....
		garnet.....	small rounded crystals.....
301	south side of Verplanck Point.....	chrysolite.....	
		garnet.....	
		staurolite.....	
		amphibole.....	gray green actinolite.....
		pyroxene.....	



## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
293	x		orthoclase, epidote.....	43
				43
				43
294		in Georgia quartzite and slates.....		43
295		in gneiss.....		27, 111

## COUNTY

296	*†	Clinton formation.....		194
		"	hematite.....	43
297	*	"		194

## COUNTY

298	*†	in gneiss.....	chalcopyrite.....	5, 43, 101
		"	pyrrhotite.....	43, 101
		"	"	43
		"	amphibole, calcite.....	43
		"	pyroxene.....	43
		"	chalcopyrite.....	43, e
	x	"		43
299		in norite contact.....	amphibole.....	43, 228
		"	pyroxene.....	43
		"	sillimanite.....	43, 228
		"	"	228
		"	staurolite.....	43, 228
300	*	in norite.....	spinel garnet.....	43, 228
	*	"	"	43, 228
		"	magnetite.....	43
		"	"	228, w
301		in norite contact.....		44
		" mica schist.....	staurolite.....	44
		"	garnet.....	44
		in limestone.....	pyroxene.....	44, 228
		"	amphibole.....	228

## WESTCHESTER

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Cortlandt (continued)</b>			
302	Peekskill.....	amphibole.....	
		staurolite.....	small crystals.....
		graphite.....	
<b>Eastchester</b>			
303	Tuckahoe.....	dolomite.....	massive.....
		phlogopite.....	
		sphalerite.....	dark rounded masses.....
		pyrite.....	
		chalcopyrite.....	
<b>Harrison</b>			
304	1m. w. Port Chester.....	serpentine.....	pinkish brown masses.....
		brucite.....	
		chlorite.....	
		tourmalin.....	black.....
		amphibole.....	tremolite.....
<b>Mt Pleasant</b>			
305	Pleasantville.....	muscovite.....	large sheets, magnetite inclusions.
<b>New Rochelle</b>			
306	New Rochelle, Davenport's neck.....	serpentine.....	yellow, green and pinkish.....
		magnesite.....	snow white crusts.....
		brucite.....	small, imperfect crystals.....
		amphibole.....	actinolite, tremolite and hornblende
		enstatite.....	bronze.....
		chromite.....	disseminated crystals and grains. .
		quartz.....	drusy crystals and chalcedony.....
		garnet.....	small, imperfect crystals.....
		titanite.....	
		deweylite.....	
		calcite.....	crystalline massive.....
<b>Ossining</b>			
307	Ossining, Prison quarry.....	pyroxene.....	malacolite.....
		amphibole.....	tremolite.....
		pyrite.....	small bright crystals.....
		graphite.....	crystals.....

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
302	.....	in norite.....	.....	43
	.....	in mica schist.....	.....	43, 223
	.....	“.....	.....	43
303 *	.....	dolomitic limestone.....	pyrite, chalcopyrite.....	5, 43
	.....	“.....	.....	<i>m</i>
	.....	“.....	pyrite, chalcopyrite.....	43
	.....	“.....	dolomite.....	43
	.....	“.....	“.....	43
304	.....	mica schist.....	brucite etc.....	5, 43
	.....	in serpentine.....	serpentine.....	<i>m</i>
	.....	“.....	amphibole.....	5, 43
	.....	in mica schist.....	.....	5, 43
	.....	“ serpentine.....	brucite etc.....	5, 43
305 x	.....	.....	.....	<i>e</i>
306	.....	neighboring rock mica schist.....	brucite, chromite.....	5, 43, 129
	.....	on serpentine.....	serpentine, brucite.....	5, 43
	.....	“.....	“ etc.....	5, 43
	.....	serpentine.....	enstatite, garnet.....	5, 43, 129
	.....	“.....	amphibole.....	43, 129
	.....	“.....	serpentine.....	5, 43
	.....	vein in serpentine.....	deweylite.....	5, 43, 129
	.....	in mica schist and hornblende rock.....	titanite.....	5, 43
	.....	“.....	garnet.....	43
	.....	vein in serpentine.....	chalcedony.....	129
	.....	“.....	“.....	129
307 x	.....	in dolomitic limestone.....	amphibole.....	5, 43
x	.....	“.....	pyroxene, pyrite.....	43
x	.....	“.....	amphibole.....	43
x	.....	“.....	calcite.....	<i>e</i>

## WESTCHESTER

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Ossining (continued)</b>		
	Ossining, Prison quarry (continued)...	quartz .....	chalcedony incrusting dolomite crystals.....
		" .....	crystals, occasionally doubly terminated.....
		dolomite.....	crystals .....
		talc .....	green foliated .....
		rutile.....	slender prismatic crystals.....
		serpentine .....	pseudomorph after pyroxene .....
		calcite. ....	scalenohedral crystals.....
308	Sparta, 1m. s. Ossining (old copper mine)	cerussite.....	small prismatic crystals.....
		pyromorphite ..	mammillary incrustations on galena.....
		anglesite.....	.....
		vauquelinite...	green and brownish concretions... ..
		wulfenite.....	sparingly in tabular crystals .....
		vanadinite .....	.....
		galena.....	.....
		chalcopyrite ..	in minute crystals and massive ...
		azurite.....	.....
		malachite.....	.....
		pyrite.....	small crystals .....
		calcite.....	crystals of prismatic habit .....
309	Shafts 3 and 4 New Croton aqueduct 4m. s.e. Croton Landing.....	stilbite.....	radiated aggregates.....
310	Shaft 5 New Croton aqueduct, Whitson	rutile.....	.....
		harmotome.....	twin crystals lining vugs.....
		heulandite.....	.....
		stilbite.....	small, sheaflike aggregates.....
		pectolite.....	.....
		beryl.....	.....
		pyrite.....	small bright crystals.....
		barite.....	white crystals and masses.....
		quartz.....	rough, imperfect crystals.....
		calcite.....	modified crystals, P't Henry type
		chrysolite.....	yellow grains.....
		tourmalin.....	minute, transparent, yellow prisms

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
	x.....	in dolomitic limestone.....	dolomite.....	e
	xx.....	".....	".....	e
	.....	".....	talc, mica.....	e
	.....	".....	dolomite.....	e
	.....	".....	" quartz.....	e
	xx.....	".....	pyrite.....	c
	x.....	".....	dolomite.....	e
308	.....	".....	galena, chalcopyrite.....	5, 43
	.....	in dolomitic limestone.....	galena, chalcopyrite.....	5, 43
	.....	".....	.....	43
	.....	".....	pyromorphite.....	5, 43
	.....	".....	vanadinite, pyromorphite.....	43
	.....	".....	wulfenite.....	43
	.....	".....	chalcopyrite, cerussite.....	43
	.....	".....	galena.....	5, 43
	.....	".....	malachite, galena.....	5, 43
	.....	".....	azurite, galena.....	5, 43
	.....	in gneiss.....	calcite.....	e
	.....	on mica schist.....	.....	e
309	.....	on gneiss.....	calcite, pyrite.....	e
310	.....	in ".....	.....	43, e
	xx.....	".....	pyrite, barite.....	43, e
	x.....	".....	".....	43
	.....	".....	.....	43, e
	.....	".....	.....	43
	.....	".....	.....	5, 43
	.....	".....	calcite.....	e
	.....	".....	".....	e
	.....	".....	".....	e
	.....	".....	pyrite.....	e
	.....	".....	prochlorite, tourmalin.....	e
	.....	".....	chrysolite.....	e

**WESTCHESTER**

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Yonkers</b>		
311	2½ m. n. Yonkers on aqueduct.....	pyrite.....	
		calcite.....	
		amphibole.....	tremolite in radiated aggregates...
		garnet.....	small, rounded crystals & masses..
		tourmalin.....	black crystals seldom perfect.....
		stilbite.....	
		muscovite.....	rhombic prisms.....
		apatite.....	transparent crystals.....
		epidote.....	massive and crystals.....
		analcite.....	small, perfect crystals.....
	<b>Yorktown</b>		
312	Croton Lake.....	sillimanite.....	fibrolite.....
		monazite.....	good crystals.....

**WYOMING**

Salt is obtained in commercial quan-

**YATES**

The rocks of this county afford no recorded minerals



**COUNTY** (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
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		"	amphibole.	43
		"	calcite, muscovite.	5, 43
		"	tourmalin.	5, 43
		"	apatite, garnet.	5, 43
		"	calcite.	5
		"	amphibole.	5, 43
		"	epidote.	5, 43, 115
		"	apatite.	115
		"	tourmalin etc.	5, 43
312		in mica schist.	monazite, amphibole.	43
		"	sillimanite.	43

**COUNTY**

tities from the rocks of this county.

**COUNTY**

localities of sufficient importance to note in this list.

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5	.25	10	.35	15 ( " 9)	.15
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7	.20	12	.25	17 ( " 14)	.30
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Descriptions and illustrations of edible, poisonous and unwholesome fungi of New York have been published in volumes 1 and 3 of the 48th museum report and in volume 1 of the 49th, 51st, 52d, 54th and 55th reports. The descriptions and illustrations of edible and unwholesome species contained in the 49th, 51st and 52d reports have been revised and rearranged, and, combined with others more recently prepared, constitute Museum memoir 4.

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12-15	48, v. 1	20-25	52, v. 1	35-36	54, v. 2
16-17	50 "	26-31	53 "	37-44	" v. 3
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- Kemp, J. F. Crystalline Rocks of Warren and Washington Counties. *In preparation.*
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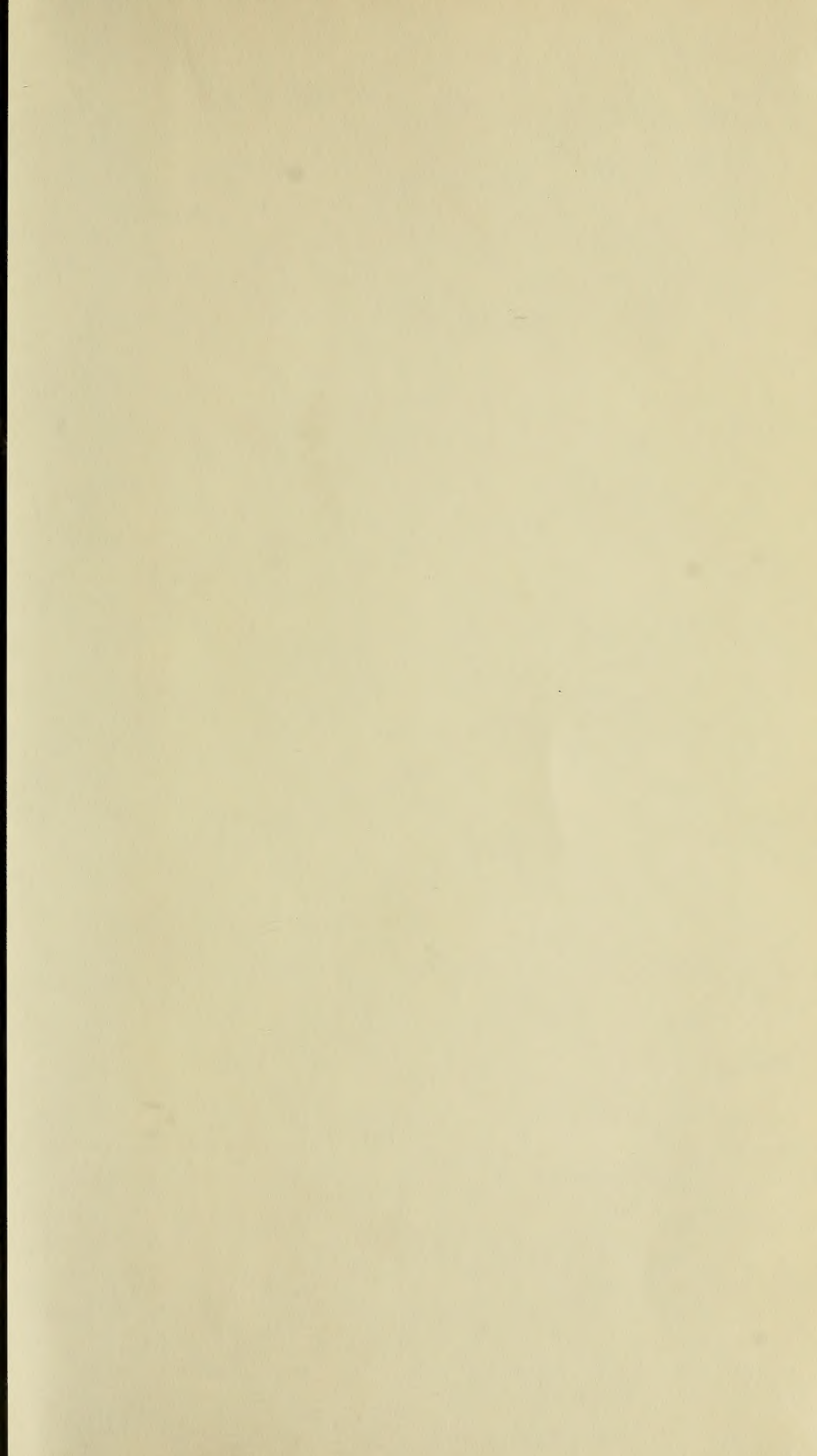
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